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ABSTRACT

Data analyses and interpretation are presented in this report on data obtained from "A Study of Schooling." For this study, data were collected from elementary, junior, and senior high schools (a total of 38 schools) through the use of classroom observation, questionnaires, and interviews. The data discussed in this report is concerned with educational structures, processes, and attitudes, and is presented in four sections. Section I considers instructional practices, teachers' and students' activities, and student perceptions of selected instructional practices. Classroom structures are examined in Section II, including data on teacher student ratios, classroom space and furnishings, student cooperative and independent learning, grouping practices, and individualization of instruction. Section III summarizes results of classroom observations of the use of time by students and teachers, decision making practices, and controls and restraints used by teachers. The data on classroom learning environment is explored in Section IV. Data on this topic was obtained from students' responses to survey questions and observers' judgments about the affective time of teacher student interactions. A profile of teacher student and student peer relationships emerged. (JD)

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A STUDY OF SCHOOLING

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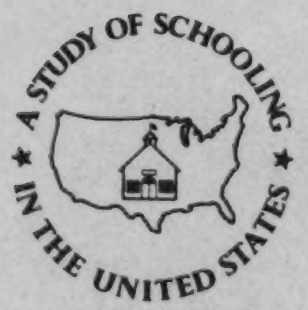

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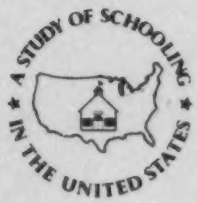

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TEACHING AND LEARNING

Joyce Wright

Technical Report No. 18

1980

A Study of Schooling is based upon the assumption that improving schools requires knowing what is happening in and around them. A comprehensive data-base of contextual information was obtained from students, teachers, administrators, parents and observers at all grade levels in thirty-eight elementary and secondary purposively sampled schools. *It is strongly recommended that readers of any technical report in this series first read Technical Report No. 1 which outlines the details, scope and limitations of the Study as a whole.*

It must be understood that this series of technical reports does not constitute the Study. Some reports are highly specific "molecular" inquiries while others take a more "molar" view across data sources, schooling levels, etc. Some reports are more methodological in nature arising out of issues in data analysis. Many of the reports quite naturally overlap in data analysed and interpretations rendered. Some authors have approached their task as consisting mostly of data description with little discussion beyond the presentation of the data. Others have ventured further into the realm of interpretation and speculation. *It must be further understood that data-based inferences can and do differ among researchers who come at the data from differing points-of-view.* Authors, therefore, are duly acknowledged for each report and are responsible for the material presented therein.

ACKNOWLEDGEMENTS

This report draws on data analyses and interpretations prepared by the following persons: Barbara J. Benham, Frances Klein, Jeannie Oakes, Bette Overman, Kenneth A. Tye and David P. Wright.

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PREFACE

The following report represents one attempt to organize, report, and discuss data from A Study of Schooling that concerns the rather large topic of teaching and learning. While the data were organized on an a priori basis into four main sections, conclusions and themes emanated from the findings. No attempt was made to use the data to support or reject any pre-existing hypotheses.

In general, we have a lot of data about teaching, but a much more limited set of findings about student learning. We do not know much about the actual meaning that students gained from their experiences in school. Nor do we know how much students actually learned. Instead, we have focused more on the classroom conditions and processes which supported, surrounded and shaped the nature of student learning. Similarly, while we do have much data about how teachers taught, we have limited information about what they taught. The materials that teachers submitted to us as examples of what they taught are specific to the various subject areas. Accordingly, this material will be reported in the subject reports.

My approach, therefore, has been to address questions concerned with the nature of teaching and learning in the classrooms at each of the levels of schooling. Most of our data is, in fact, concerned with structures, processes, and attitudes. Also, in an attempt not to duplicate analyses made by others involved in reporting on the curriculum or the subject areas, I deemphasized what data we do have about what was taught. Even with these limitations, we have an enormous amount of information about teaching and learning. Hopefully, the following pages will contribute to our understanding of this complex, but central and critical component of schooling.

SECTION 1: INSTRUCTIONAL PRACTICES

When we think of what classroom teaching consists of, instructional practices usually come to mind as one of the main components. Recent research in this area has turned from a conception of instruction as a separate activity that can be perfected by teachers to maximize student learning, to one that focuses on the interaction of teachers and students in classroom settings (Westbury, 1978). In other words, it may be too simplistic to assume that there is one direction of influence--from teacher to student--and that teachers can control the nature and degree of this influence by utilizing the most effective techniques. Instead, researchers have begun to consider the importance of examining teacher and student behavior as well as the nature of their interactions in classrooms.

While analyses which would adequately describe these interactions are currently beyond the scope of this report, data from and about teachers and students will be presented in order to suggest that instruction involves both within an interactive setting. Thus, the discussion will focus on teachers' activities--their instructional strategies, techniques or methods--and students' activities--the types of learning experience they encountered. It is fairly obvious that two assumptions underlie the previous statement: (1) that teachers' actions were primarily instructional in nature; and (2) that students' activities were directed toward learning. These assumptions will not be challenged at the onset, but will be questioned when findings suggest alternative explanations.

Teachers' Activities

Data from A Study of Schooling provide several types of information about teachers' classroom activities from a variety of perspectives. First,

teachers reported the frequency of occurrence and usefulness of various strategies or techniques. Observers also recorded the frequency with which teachers used various methods. Finally, students indicated whether or not teachers employed various instructional strategies. All of these data can be aggregated by level of schooling, school, and class. In addition, all of the data are available by subject for the secondary schools, but only some of the data can be examined by subject for the elementary schools. In this report, emphasis will be placed on analysis of the data by level of schooling and sometimes school. References to subject area differences will be made when appropriate.

Six categories of teacher behavior were generated for this discussion: (1) lecture, demonstrate, explain; (2) observe, monitor; (3) question; (4) respond (acknowledge, reject, praise, corrective feedback and reprimand); (5) discuss; and (6) attend to routines. Data from teachers, students, and/or observers will be used to discuss findings for each category.

Lecture, demonstrate, explain. Students indicated whether or not they listened to or watched their teachers demonstrate how to do something. Teachers reported the frequency with which their students listened to or watched them. And observers recorded the frequency of teachers explaining, lecturing, or instructing both in the Snapshot and FMI sections of the observation schedule. (See Giesen and Sirotnik, 1979, for a comprehensive discription of the classroom observation instrument.) Admittedly, the teacher and student items really focused on student behavior, but these items also yielded information about teacher behavior in that teachers had to have been lecturing or demonstrating if students listened to or watched them.

Over 90 percent of students in grades four through twelve reported that they listened to or watched their teacher in each of the different subject

areas (Table 1.1). School scores differed little from these overall percentages. Obviously, then, lectures and demonstrations were part of most, if not all, teachers' classroom activities. Still, though, these data do not tell us how frequently teachers lectured or demonstrated or whether this activity was practiced more than others.

TABLE 1.1

Student Report of Listening to/Watching Teacher

Level	Subject	% Yes	N
Upper Elementary	English	94.0	1597
	Mathematics	94.0	1551
	Social Studies	94.0	1533
	Arts	94.0	1561
	Physical Education	93.0	1585
	Science	91.0	1502
Junior High	Foreign Language	96.0	218
	Vocational Education	95.0	1022
	Physical Education	94.0	752
	Mathematics	93.0	1665
	English	93.0	1647
	Social Studies	93.0	1412
	Science	92.0	1063
	Arts	91.0	1169
Senior High	Foreign Language	97.0	536
	English	96.0	1788
	Vocational Education	96.0	1720
	Mathematics	95.0	1586
	Social Studies	95.0	1735
	Science	95.0	1317
	Arts	94.0	1478
	Physical Education	94.0	770

Teachers' self report about this activity gives us a little more information in that they rated the frequency with which their students listened to or watched them. At all levels of schooling and in all subjects, teachers rated this activity as occurring often. We can also see from examining

Table 1.2 that the mean frequency for lecturing/demonstrating increased with level of schooling across all subjects. This trend fits the common notion that there is more of an emphasis on such "frontal" teaching methods as students progress through their years of schooling. It is also apparent that teachers in the various subjects responded somewhat, but not greatly differently from each other. And there seemed to be a consistently moderate amount of variation within subjects as well.

TABLE 1.2

Teacher Report of Frequency of Students Listening To/Watching Teachers*

Level	Subject	$\bar{X}$ Freq.	S.D.	N
Elementary	English	3.37	0.56	235
	Mathematics	3.37	0.62	214
	Social Studies	3.14	0.66	195
	Physical Education	3.12	0.76	91
	Arts	3.10	0.73	175
	Science	3.03	0.66	182
	Overall	3.18		
Junior High	Foreign Language	3.42	0.52	12
	Physical Education	3.39	0.55	36
	Vocational Education	3.36	0.49	47
	Mathematics	3.35	0.59	71
	Arts	3.30	0.65	47
	English	3.27	0.66	84
	Social Studies	3.21	0.57	53
	Science	3.09	0.72	45
	Overall	3.30		
Senior High	Foreign Language	3.56	0.56	34
	Physical Education	3.43	0.57	53
	Mathematics	3.43	0.62	88
	Vocational Education	3.37	0.59	141
	English	3.34	0.63	131
	Social Studies	3.27	0.50	91
	Arts	3.25	0.64	66
	Science	3.14	0.65	77
	Overall	3.35		

*Responses codes are:
1 = Never
2 = Not very often
3 = Often
4 = Always or most of the time

The observation data support the trend noted above that teacher lectures and demonstrations increased with level of schooling. Both the FMI data and the Snapshot data reveal the same pattern. Table 1.3 contains average percentages for each level of schooling of total observed frames in which teachers were explaining, instructing or demonstrating to students. The largest difference is between the elementary and junior high school years, but the pattern of increased use of these methods continues from junior to senior high school as well.

TABLE 1.3

Average Percentage of Observed FMI Frames
Spent on Instruction, Explanation, Demonstration

Level of Schooling	% of Frames
Elementary	20.72
Junior High	28.58
Senior High	31.65

The Snapshot data, as shown below, enforce this generalization. Here we have the average percentage of "teacher time" spent on explaining, lecturing, reading aloud, or demonstrating to students.* These data are similar to the FMI observation data reported above in that they both suggest that about 25 to 30 percent of teachers' classroom activities focused on lecturing or demonstrating activities.

Proportion of Total Observed Teacher Activity
Spent on Explaining, Lecturing or Demonstrating to Students

Level of Schooling	%
Early Elementary	23.3
Upper Elementary	24.7
Junior High	27.9
Senior High	30.8

* These data represent the proportion of total observed teacher activity as recorded, on the average, of four times per hour, for three hours for secondary classes and for twelve hours for elementary classes.

Observe, monitor. We are more limited regarding types of data available for describing how often teachers observed or monitored students as they worked. Basically, we must rely on observation data for this information. But, both the FMI and Snapshot sections of the observation instrument contain relevant items. These data, as displayed in Table 1.4 and 1.5, do not show a consistent pattern from level to level. There does seem to be a tendency, though, for junior high school teachers to have spent somewhat more time observing and monitoring students than did teachers at the other levels.

TABLE 1.4

Average Percentage of FMI Frames Spent On Teachers Observing or Monitoring Students

Level of Schooling	% of Frames
Elementary	9.13
Junior High	14.72
Senior High	12.28

TABLE 1.5

Proportion of Total Observed Teacher Activity Spent on Observing/Monitoring Students

Level of Schooling	%
Early Elementary	14.9
Upper Elementary	18.1
Junior High	22.6
Senior High	18.8

Questioning. The observation data are also our major source of information about teachers' questioning strategies. The FMI section yields data about the frequency with which teachers asked direct and open-ended questions.

In Table 1.6 are displayed the proportion of total FMI frames in which teachers asked direct and open questions of students during instruction. First, we can see that there was a much higher use of direct than open questions at all levels of schooling. Secondly, while there was little variation in use of open questions among the different levels, there were differences regarding use of direct questions. Elementary school teachers asked proportionately more direct questions--and actually more questions in general--than did secondary teachers. Perhaps, this indicates a faster pace in elementary classrooms, longer student responses to questions in secondary classrooms, or more attention to other activities in secondary classes. Also, because elementary teachers are often more concerned that their students learn basic skills, they may have devoted more attention to questioning their students in a very direct and precise manner. But the lack of increased emphasis at the secondary level on asking open-ended questions does not suggest that teachers of older students were more concerned with learning of higher level skills and concepts.

TABLE 1.6

Average Percentage of FMI Frames Spent on Direct and Open Questions During Instruction

	Level of Schooling	% Frames
Direct Questions*	Early Elementary	14.50
	Upper Elementary	11.23
	Junior High	9.81
	Senior High	9.07
Open Questions**	Early Elementary	0.54
	Upper Elementary	0.59
	Junior High	0.51
	Senior High	0.46

* These percentages include direct questions and imperative commands.

** These percentages include open questions and imperatives which functioned as open questions.

Responding. Not only do teachers question students, but they also, obviously, respond to students. Data from A Study of Schooling allow us to describe the different ways in which teachers responded to students in much greater detail than was possible when detailing their questioning strategies. The following discussion focuses on seven types of behavior teachers exhibited when responding to students. Two of the behaviors--responding to and refusing/rejecting students--are different from the remaining five in that they merely indicate whether or not teachers reacted to students' questions or requests for attention or assistance. The other five behaviors describe types of feedback that teachers gave to students regarding their responses to teachers' questions, their work (products) or behavior.

1. Response to student questions or requests. We can see from Table 1.7 that less than 5 percent of the FMI frames concerned teachers responding to student initiated actions. This is a considerably smaller proportion of FMI frames that was recorded for any of the previously discussed teacher activities. The slight increase in the frames of teachers responding to students as level of schooling increases suggests that teachers of older students may be a little more responsive in reacting to students' request. We may also find that older students make proportionately fewer demands of their teachers.

TABLE 1.7

Average Percentage of FMI Frames of Teachers Responding to Students' Questions

Level of Schooling	% Frames
Early Elementary	2.18
Upper Elementary	3.41
Junior High	4.04
Senior High	4.01

2. Refusing/rejecting students' questions or requests. Even if teachers responded to students' requests less frequently than they asked questions of students or observed students while they worked, they did respond to students more frequently than they refused or rejected students' requests or questions (Table 1.8). It appears, then, that only infrequently did teachers at any level of schooling fail to respond to their students' demands for attention.

TABLE 1.8

Average Percentage of FMI Frames of Teachers Refusing/Rejecting Students' Questions/Requests

Level of Schooling	% Frames
Early Elementary	0.09
Upper Elementary	0.12
Junior High	0.11
Senior High	0.07

3. Acknowledgement of students' responses products or behavior. This activity was operationalized to describe a basically neutral behavior which entailed teachers' simple recognition of student effort. I find it interesting that this type of acknowledgement decreased with level of schooling (Table 1.9). Thus, teachers of older students appeared to give proportionately less neutral feedback to students.

TABLE 1.9

Average Percentage of Total FMI Frames of Teachers Acknowledging Students' Responses*

Level of Schooling	% Frames
Early Elementary	3.07
Upper Elementary	2.39
Junior High	1.94
Senior High	1.78

* Teachers' acknowledgement of students' responses was operationalized as reflecting a neutral affect.

4. Praise of students' responses, products or behavior. While there was relatively infrequent acknowledgement, albeit neutral, of students' efforts there was even less observed praise or encouragement given to students (Table 1.10). Again, the trend is toward decreasingly frequent use of praise as level of schooling increases. But even during the early elementary years, less than 2 percent of the FMI frames involved teacher praise of students. One could say that the students in our sample were not being smothered in affection.

TABLE 1.10

Average Percentage of Total FMI Frames of Teachers Praising Students

Level of Schooling	% Frames
Early Elementary	1.85
Upper Elementary	1.02
Junior High	0.91
Senior High	0.92

5. Reprimanding students. If students did not receive an over-abundance of praise, neither did teachers reprimand them very frequently (Table 1.11). In fact, the only other teacher behavior discussed in this section which showed a lower frequency of occurrence is teacher rejection of students' requests. Thus, while teachers were not exceptionally profuse in their observable use of positive reinforcement, they certainly were not overtly punishing either.

TABLE 1.11

Average Percentage of Total FMI Frames of Teachers Reprimanding Students

Level of Schooling	% Frames
Early Elementary	0.38
Upper Elementary	0.37
Junior High	0.27
Senior High	0.11

6. Correcting students. We also observed the frequency with which teachers corrected students' responses, products or behavior. The average percentage of frames observed for this behavior never exceeded 5 percent at any level of schooling. Furthermore, we see from Table 1.12 that once again there was a decrease in observed use of this type of feedback as level of school increased.

TABLE 1.12

Average Percentage of Total FMI Frames Observed of Teachers Correcting Students

Level of Schooling	% Frames
Early Elementary	4.77
Upper Elementary	3.76
Junior High	2.48
Senior High	1.46

7. Correcting students with guidance. In addition to simple correction of students, it is possible, and some educators think more desirable, to give students suggestions for improvement after correcting their mistakes. Accordingly, this type of feedback activity was also recorded (Table 1.13). Comparison of Tables 1.13 and 1.12 reveals that teachers at all levels used less correction with guidance than just simple correction. The same pattern is evident, though, of decreased use of correction with guidance as level of schooling increased.

TABLE 1.13

Average Percentage of Total FMI Frames Observed of Teachers Correcting Students With Guidance

Level of Schooling	% Frames
Early Elementary	1.38
Upper Elementary	1.15
Junior High	0.79
Senior High	0.67

Summary of responding behaviors. The percentage of FMI frames recorded for any type of responding behavior never exceeded 5 percent at any level of schooling. For praise and correcting with guidance, less than 2 percent of FMI frames were recorded. And less than 1 percent of the frames involved rejecting or reprimanding students. Considered individually, then, these responding behaviors accounted for a relatively small proportion of observed teacher activity. But, when all of these types of responding behaviors are added together, the proportion of observed teacher activity spent on responding to students' questions, requests, products and behavior is more substantial (Table 1.14). Still, though, it seems apparent that teachers did not spend the majority of their time directly responding or reacting to students.

Another interesting trend noted in the data reported above and in Table 1.14, is that elementary teachers responded to students proportionately more frequently than secondary teachers. Thus, it seems that younger students received more feedback than did older students. It remains to be determined whether or not younger students also requested attention from teachers more frequently than older students.

TABLE 1.14

Average Percentage of FMI Frames for
All Types of Teacher Responding Behavior

Level of Schooling	% Frames
Early Elementary	13.72
Upper Elementary	12.22
Junior High	10.54
Senior High	9.02

In addition to examining level percentages of FMI frames for how frequently teachers responded to and gave feedback to students, we can also investigate school differences. For purposes of this analysis, two of the

seven types of responding behavior described above were not used, and two others were combined to form four variables: (1) praise, (2) correcting students, (3) reprimanding students, and (4) rejecting students. In addition, these four variables were examined separately for the contexts of instruction, behavior, and routines. Analysis of variance revealed significant differences among junior high schools for all four variables in the instructional and routines contexts, and for two variables in behavior (Table 1.15). Among senior high schools, there were significant differences for the four variables in the instructional context, and for two variables in the other two contexts.[+] It is interesting that even with relatively small mean scores, differences did emerge among schools.

TABLE 1.15

Differences Among Secondary Schools for Four Teacher Responding Variables: Analysis of Variance, F Values

Variable		Instruction	Behavior	Routines
Junior High	Praise	5.32**	----	5.03**
	Correction	7.39**	10.06**	2.10*
	Reprimand	2.84**	2.80*	2.07**
	Rejection	7.95**	----	5.02**
Senior High	Praise	2.94**	----	4.52**
	Correction	4.82*	6.97**	6.29**
	Reprimand	2.01*	2.84*	----
	Rejection	2.04*	----	----

* $p < .05$
** $p < .01$

At the junior high level, three schools stand out as having distinct and interpretable scores on the variables. Bradford[++] and Rosemont had relatively low mean scores on all four variables. In other words, teachers at these schools appeared to have given students relatively little feedback,

[+] The same analysis has not yet been completed for elementary schools.
[++] Names of schools and districts in this report are fictitious

be it positive or negative. In contrast, Palisades had high scores on the two more positive variables--praise and feedback--and low scores on the two more negative variables--reprimand and reject. One might say, then, that Palisades teachers gave more attention to using positive versus negative forms of feedback or reinforcement to students.

At the senior high level, the patterns are not as clear cut. Palisades teachers had high praise and reprimand scores. Bradford teachers had low scores for correcting, reprimanding, and rejecting students. Laurel teachers also had three relatively low scores for praise, reprimand, and reject. We do not see, though, a distinct pattern of high scores on the positive variables and low scores on the negative variables. Nor do any schools have low scores or high on all four variables.

Discussion. Observation data also provide some insights into the extent of teacher involvement in group discussion activities. One of the Snapshot activities measures the proportion of total observed teacher activity spent in discussion activities with students (Table 1.16). There does not appear to be a clear increase or decrease of percentages from level to level. It should be pointed out that this variable does not shed light on whether or not teachers directed and controlled the discussions. Nor does it tell us what types of questions were asked. Other FMI variables reported above address the latter issue. In general, then, we can say that from about 6 to 11 percent of observed teachers' activities were spent in discussion situations.

TABLE 1.16

Proportion of Total Observed Teacher Activity Spent in Discussion With Students

Level of Schooling	%
Early Elementary	6.1
Upper Elementary	8.2
Junior High	11.1
Senior High	9.0

Routines. Another part of teachers' activities which is often cited as interfering with instructional duties is time spent on handling routines. Both the FMI and Snapshot sections of the observation Instrument yield data about teacher participation in routine activities. All FMI frames were coded to indicate whether the particular activity concerned instruction, routines, student behavior problems, or social interaction. As we can see from Table 1.17, the average percentage of FMI frames concerning routines was very consistent from level to level. About 20 percent of the frames concerned routines. I find it somewhat surprising that the data do not show elementary teachers as having spent proportionately more "time" on routines than did secondary teachers.

TABLE 1.17

Average Percentage of FMI Frames Concerning Routines

Level of Schooling	%
Early Elementary	18.99
Upper Elementary	20.71
Junior High	18.02
Senior High	20.39

This consistency across levels is supported by the Snapshot data (Table 1.18). When looking at proportions of teachers' activities for preparation for assignments or attending to routines, we see no clear trends or patterns. Perhaps, my expectation that teachers of younger students tend to spend more time on routines is unfounded. Perhaps, our classroom observers did not begin their observations until some of the regular routines of elementary school life were finished for each day. Our data do suggest, though, that secondary teachers devoted as much "time" to routine matters as did elementary teachers.

TABLE 1.18

Proportion of Total Observed Teacher Activity
Spent on Preparation for Assignments and Routines

Level of Schooling	% Preparation for Assignment	% Routines
Early Elementary	11.9	9.6
Upper Elementary	10.5	10.5
Junior High	15.1	10.3
Senior High	11.8	12.9

Summary of teachers' activities. The data reported thus far suggest some interesting observations about the nature of teachers' classroom activities. First, it is fairly obvious that lecturing/explaining/instructing/demonstrating activities are the most prevalent type of activity for teachers at all levels of schooling. From about 20 to 30 percent of teachers' observed activities were of this type. Second, there was a clear trend of increased lecturing/explaining/demonstrating as level of schooling increased. Considering what we already know, or think we know, about the nature of elementary and secondary classrooms, it is not surprising to find this pattern. Generally, elementary teachers are thought of as interacting more with individual and small groups of students, even when they are instructing or explaining material to them. Secondary teachers are viewed as relating more to the total class and less to individual or small groups of students.

We have additional data to support this image of secondary teachers as practicing more of a frontal approach in their teaching and perhaps interacting less with individual and small groups of students than did elementary teachers. It is possible to examine how the proportion of observed teacher activity spent instructing/explaining/lecturing/demonstrating is distributed by size of groups of students being taught.* We found that a little less than

* Snapshot data were used for this analysis.

two-thirds of observed teacher lecturing/instructing activity at the early elementary level included the total class. This proportion increased to slightly more than two-thirds for upper elementary teachers and about three-fourths for secondary teachers. In other words, when secondary teachers engaged in lecturing/explaining type activities, they more frequently taught the whole class than did elementary teachers.

In addition, data reported above show that, proportionately, teacher questioning and responding or giving feedback to students also decreased with level of schooling. Thus, regardless of the types of questions asked or whether or not teachers gave positive or negative feedback to students, elementary teachers appeared to interact more with their students. Information about grouping patterns reported later in this report should help us to shed further light on this trend.

At all levels of schooling, though, observers recorded almost equal percentages of FMI frames for teachers asking questions and for teachers responding or giving feedback of any type to students. Teachers did not just ask questions, but also responded to students. I am not saying, though, that teachers necessarily responded to students in the most educationally sound ways. As we have seen, very little praise or correction with guidance were observed. Perhaps, teachers need more help themselves in learning how to respond to students in more seemingly "effective" ways. Or, then again, maybe the dynamics of classroom life and the burden of guiding the learning of thirty or more students force teachers to neutralize their reactions to students in order to preserve their own emotional strength. What I am suggesting is that the generally low levels of either praising or reprimanding students and the resulting neutral atmosphere of classroom life which seems to emerge from our data may be psychologically necessary. To respond to

students with a great deal of feeling, be it positive or negative, or to frequently suggest ways that students' work can be improved requires a lot of energy. Perhaps it is too much to expect one individual to constantly respond at a heightened level to large numbers of students six hours a day five days a week.*

Students' Perceptions of Selected Instructional Practices

Students in all grades responded to several items which described various aspects of their teachers' instructional practices. While the specific items varied for the different levels of schooling, there was, in most cases, enough similarity to permit making some comparisons between elementary and secondary schools. Response formats were as follows:

Early elementary - 1=no
2=sometimes
3=yes

Upper elementary - 1=usually false
2=usually true

Secondary - 1=strongly disagree
2=mildly disagree
3=mildly agree
4=strongly agree

Teacher clarity. Early elementary students indicated whether or not they understood what their teachers wanted them to do. Overall, 57 percent of the students said YES, 40 percent said sometimes, and only 3 percent said NO. While the percentage who responded negatively is relatively small, it is also somewhat distressing that just barely over half of the students said YES to the item. In Table 1.19 school mean scores are shown for this item.

TABLE 1.19

Early Elementary Students' Ratings of Teacher Clarity

School	$\bar{X}$	sd	N	School	$\bar{X}$	sd	N
Bradford	2.68	.566	176	Woodlake	2.50	.535	173
Rosemont	2.65	.543	150	Atwater	2.47	.557	103
Palisades	2.61	.516	147	Crestview	2.46	.565	145
Newport	2.60	.532	146	Dennison	2.42	.584	24
Laurel	2.59	.592	114	Fairfield	2.41	.571	171
Manchester	2.56	.567	165	Vista	2.38	.501	147
Euclid	2.54	.516	128				
				Total	2.53	.554	1789

*A recent article in the Los Angeles Times (July, 1980) reported that secondary school teachers in Japan teach three hours per day. This schedule allowed them to devote more time to individual students' needs and to curriculum development.

Upper elementary students responded to the item "Our teacher gives clear directions." They had only two response choices, either usually true or usually false. Almost 20 percent of the students selected the latter response. This seems to be a somewhat large proportion of students to report that teacher directions were not clear. When we examine school percentages (Table 1.20) the variance among schools is fairly substantial. But there does not appear to be a relationship between these school scores and any school demographic characteristics. Nor is the rank order similar to that for early elementary students on the related item.

TABLE 1.20

Upper Elementary Students' Ratings of Teacher Clarity

School	% Usually True	N
Dennison	92.9	14
Euclid	87.8	131
Woodlake	86.3	168
Rosemont	85.4	89
Newport	84.7	170
Atwater	84.0	75
Crestview	79.8	89
Fairfield	79.3	169
Vista	78.5	163
Manchester	76.9	117
Laurel	76.5	149
Palisades	73.6	121
Bradford	70.2	168
Total	80.1	1623

Secondary students responded to four items which were combined to form a teacher clarity scale.

Teacher Clarity

62. The teacher uses words I can understand.
63. The teacher gives clear directions.
95. The students understand what the teacher is talking about.
109. I understand what the teacher is talking about.

Overall, junior and senior high school students mildly agreed with the statements. While the individual items and response modes did vary across levels, we can say that a majority of students were able to understand their teachers. But, a sizeable minority were having trouble comprehending teachers' directions and comments.

It is also possible to arrange the secondary level teacher clarity scale by subject. Table 1.21 contains rank orders of subject means by level and shows which subjects had significantly different means (brackets enclose subsets of subject areas whose mean scores do not differ significantly from each other at the .05 level). At the high school level, we see the academic versus non-academic split which has emerged before.

Table 1.21
Student Class Climate Scale Scores Regarding
Views of Instructional Practices
Rank Order of Subject Means By Level

TEACHER CLARITY			
HIGHS		MIDS	
Voc. Ed.	3.29	Voc. Ed.	3.18
Art	3.28	P.E.	3.16
P.E.	3.25	For. Lang.	3.16
For. Lang.	3.11	Math	3.11
English	3.10	Art	3.11
Soc. St.	3.08	Soc. St.	3.09
Math	2.99	English	3.08
Science	2.90	Science	3.01

Knowledge of results. Both early and upper elementary students responded to the same item, "If I do my work wrong, my teacher helps me to do it right." Just 50 percent of the early elementary students responded YES to this item, 32 percent said SOMETIMES, and 18 percent said NO. Overall, 82.9 percent of the upper elementary students reported this statement to be TRUE. Again, a majority of students perceived that they did receive assistance from their teachers in correcting their mistakes. But, at both levels 17 to 18 percent felt that they did not receive such help. I think that we need to be concerned about this minority of students: Are they in the same classes? Do they represent low track students? Or are they a mixture of students sprinkled throughout all classes?

When school scores are examined, some differences do emerge. Table 1.22 contains school means for early elementary students and Table 1.23 contains school percentages for upper elementary students. It is interesting that all but one of the mixed and minority schools had the highest mean scores for earlies. In other words, more students at these schools felt that they did receive help from their teachers. This same trend does not show up in responses of upper elementary students. The difference in rank order of Dennison at the two levels points out the influence that the one more negative, early elementary teacher at the school had on such a small school's overall scores.

TABLE 1.22

Early Elementary Students' Ratings of
Knowledge of Results

School	$\bar{X}$	sd	N
Newport	2.66	.60	146
Rosemont	2.51	.66	150
Fairfield	2.47	.71	171
Laurel	2.41	.77	115
Bradford	2.39	.80	177
Manchester	2.36	.79	164
Crestview	2.31	.75	144
Euclid	2.25	.68	128
Atwater	2.25	.72	101
Woodlake	2.15	.78	172
Vista	2.14	.70	145
Palisades	2.07	.83	149
Dennison	1.87	.74	24
Total	2.33	.76	1786

TABLE 1.23

Upper Elementary Students' Ratings of
Knowledge of Results

School	% Usually True	N
Dennison	100.0%	14
Rosemont	89.9	89
Newport	89.8	167
Atwater	85.7	77
Woodlake	85.6	167
Euclid	84.7	131
Fairfield	84.4	167
Vista	84.0	163
Laurel	81.0	147
Manchester	77.6	116
Bradford	77.3	163
Palisades	76.9	121
Crestview	74.4	90
Total	82.9	1612

Secondary students responded to four items which were combined to form one scale.

Instructional Practices: Knowledge of Results

30. The teacher tells us how to correct the mistakes in our work.
42. The teacher tells me how to correct the mistakes in my work.
43. This teacher lets us know when we have not learned something well.
61. We know when we have learned things correctly.

As with the Teacher Clarity Scale discussed above, secondary students mildly agreed with these items. Thus, a majority of students perceived that their teachers guided corrections of their work. When subject area means are compared (Table 1.24) differences do emerge. The academic vs non-academic split does not appear so prominently here. At the senior high school level, arts and vocational education cluster together, but physical education does not. And at the junior high levels, responses of students in these classes did not differ significantly from students in mathematics or English classes. It is interesting, though, that science and social studies clustered together with the lowest mean scores, while students in foreign language classes had the highest mean scores. These data repeat the pattern noted elsewhere of students feeling very positive about what happened in foreign language classes while students were much less favorable about social studies and science.

TABLE 1.24

Secondary Students Ratings of
KNOWLEDGE OF RESULTS

HIGHS		MIDS	
For. Lang.	3.40	For. Lang.	3.35
Art	3.35	Math	3.20
Voc. Ed.	3.27	Voc. Ed.	3.17
Math	3.18	Art	3.15
P.E.	3.16	English)	3.13
English	3.07	)	
Science	2.93	P.E.)	3.13
Soc. St.	2.89	Soc. St.)	3.01
		)	
		Science)	3.01

Organization. This construct consists of items developed to measure "perceived purpose," "organization," and "grading." Secondary students responded to eleven items which were clustered together to form one scale.

Instructional Practices: Organization

28. We know exactly what we have to get done in this class.
52. We know why the things we are learning in this class are important.
57. The grades or marks I get in this class help me to learn better.
-58. We don't know what the teacher is trying to get us to learn in this class.
-72. Many students don't know what they're supposed to be doing during class.
-76. This class is disorganized.
-78. The grades or marks I get in this class have nothing to do with what I really know.
-79. We have to learn things without knowing why.
93. Students know the goals of this class.
106. Things are well planned in this class.
113. Our teacher gives us good reasons for learning in this class.

While the items could seemingly be broken down into smaller subgroups, cluster and factor analyses provided sufficient evidence to group them as listed above. Upper elementary students responded to two items (see Table 1.25) which correspond to two of the eleven items for secondary students.

There were no comparable items for early elementary students.

TABLE 1.25

Upper Elementary Students' Ratings
of Class Organization

B-23 Many students don't know what they're supposed to be doing in this class.

School	Usually True	N
Rosemont	71.1	90
Bradford	67.5	169
Crestview	65.6	90
Manchester	61.5	117
Fairfield	57.7	168
Laurel	56.8	148
Newport	54.8	168
Palisades	51.7	120
Woodlake	49.4	168
Vista	48.8	162
Atwater	46.8	77
Euclid	40.9	132
Dennison	21.4	14
Level Totals:	55.4	1623

B-40 We have to learn things without knowing why.

School	Usually True	N
Rosemont	48.9	90
Bradford	47.0	164
Atwater	41.6	77
Fairfield	40.7	167
Laurel	40.5	147
Crestview	39.6	91
Manchester	37.9	116
Woodlake	37.3	166
Dennison	35.7	14
Euclid	33.3	132
Newport	32.4	170
Vista	32.1	162
Palisades	31.7	120
Level Totals:	38.1	1616

Over half of the upper elementary students reported that many students did not know what they were supposed to do in class. And over one third said that they did not know the rationale for what they had to learn. While these overall percentages are high enough to cause some concern, some individual school scores are even more troublesome. At Rosemont, over 70 percent of the students said many students did not know what to do and almost 50 percent reported that they had to learn things without knowing why. Almost as high percentages of students responded in the same way to these items at Bradford. I begin to wonder about the extent to which teachers at these schools communicated their intents to students.

While secondary students, on the average, agreed that their classes were organized (see specific items listed above) the means for this construct were a little lower than for the other measures of instructional practices described previously. Clustering of means by subject area (Table 1.26) shows that vocational education, foreign language, and arts (at the senior high level) had relatively high scores. And senior high science and social studies were again perceived as less organized classes.

TABLE 1.26

Secondary Students' Ratings of Class Organization
Rank Order of Subject Area Means

ORGANIZATION

HIGHS		MIDS	
Voc. Ed.	3.13	For. Lang.	3.03
For. Lang.	3.03	Voc. Ed.	2.98
Art	3.00	Math	2.96
P.E.	2.93	English	2.92
English)	2.90	Soc. St.	2.88
Math)	2.90	P.E.	2.87
Soc. St.	2.85	Science)	2.83
Science	2.78	Art)	2.83

Teacher Enthusiasm. While this construct does not really represent an instructional practice, it would seem that teachers' attitudes about teaching might influence the instructional atmosphere of the classroom. The zest with which teachers approach their responsibilities can, perhaps, affect students' attitudes about learning. Secondary students responded to three items which were grouped together to form one scale:

Teacher Enthusiasm

38. This teacher seems to like being a teacher.
51. This teacher seems to enjoy what he/she is teaching
-60. The teacher seems bored in this classroom.

Upper elementary students responded to just one item, "Our teacher has fun teaching this class." And early elementary students were not presented with any similar items.

Just over 75 percent of the upper elementary students reported that their teachers had fun teaching (Table 1.27). Responses do vary by school, though. Once again, responses at schools such as Dennison, Euclid, and Atwater were more positive than they were at Bradford, Laurel and Manchester.

TABLE 1.27

Upper Elementary Students' Ratings of Teacher Enthusiasm

B-31 Our teacher has fun teaching this class.

School	Usually True	N
Dennison	100.0	14
Euclid	90.2	132
Vista	86.4	162
Atwater	84.2	76
Rosemont	80.9	89
Newport	76.8	168
Fairfield	75.7	169
Crestview	75.3	89
Woodlake	73.7	167
Palisades	73.3	120
Manchester	67.5	117
Laurel	65.1	146
Bradford	63.8	163
Level Totals:	75.8	1612

Secondary students agreed that their teachers were enthusiastic about their instructional responsibilities; senior high students were somewhat more positive in their responses (mean = 3.38) than were junior high students (mean = 3.26). In terms of subject area differences foreign language,

vocational education at both levels and arts at the senior high level seems to stand out as having more positive scores (Table 1.28, prepared by Jeannie Oakes).

TABLE 1.28

TEACHER ENTHUSIASM

HIGHS		MIDS	
For. Lang.	3.51	For. Lang.	3.40
Art	3.43	Voc. Ed.	3.30
Voc. Ed.	3.43	Art	3.27
English	3.34	English	3.27
Soc. St.	3.34	Math	3.26
Math	3.33	P.E.	3.24
P.E.	3.29	Soc. St.	3.23
Science	3.26	Science	3.22

Students' Activities

The following discussion is organized around nine categories of student behavior which seem to be predominant classroom activities: (1) listen or watch; (2) read; (3) write/work on written assignments; (4) respond to teachers' questions or requests; (5) participate in discussions; (6) make things; (7) act/role play; (8) take tests; and (9) ask questions. Data about these types of behavior come from teacher and student surveys, as well as the observation instrument.

Listen or watch. There are several specific activities which involve listening to or watching the teacher, guest speakers, other students, films, filmstrips, television or tapes and records. Much of these data are available by subject area.

1. Listen/watch the teacher. Upper elementary and secondary students

answered a survey item about whether or not they listened to or watched their teacher demonstrate how to do something. Similarly, teachers indicated the frequency with which their students listened to or watched them. These data, as shown in Table 1.1 and 1.2 and discussed on pages 1-2 through 1-4, show that this type of activity is apparently experienced frequently by a majority of students. The observation snapshot data also tell us that the likelihood of any given student having been observed listening to or watching the teacher varied from 17.5% at the early elementary level to 25.0 at the senior high level (Table 1.29). Again, we see the increase in this type of activity across the levels of schooling.

TABLE 1.29

Snapshot Data: Probability of A Student Having Been Observed Listening to or Watching the Teacher*

Level of Schooling	%
Early Elementary	17.5
Upper Elementary	19.0
Junior High	22.5
Senior High	25.0

2. Listen to guest speakers. Secondary students also reported whether or not they listened to guest speakers. Examination of Table 1.30 shows that a slightly greater proportion of junior high than senior high students said that they had listened to guest speakers. The percentages also vary by subject, so that students in junior high foreign language, social studies and math classes reported the lowest levels of guest speakers. At the senior high level, mathematics, foreign language and science classes had the lowest percentages.

* Observers coded students' activities by group size. Therefore, in order to talk about student participation in an activity irrespective of group size, we can talk about the probability that any given student was observed participating in a specific activity.

TABLE 1.30

Secondary Students' Report of Listening to Guest Speakers (% YES)

Junior High Students		Senior High Students	
English	60%	Voc Ed.	53%
Voc.Ed.	59%	The Arts	48%
Arts	58%	S.S.	46%
Science	55%	Eng.	42%
Math	49%	Science	40%
S.S.	48%	F.L.	37%
For.Lang.	47%	Math	34%

3. Listen to other students. Upper elementary as well as secondary students indicated whether or not they listened to reports given by other students. (Table 1.31). Again, we see the trend of decreasing evidence of students listening to others besides their teachers as grade level increased. I also find it somewhat surprising that smaller percentages of students reported listening to other students than reported listening to guest speakers.

TABLE 1.31

Students' Report of Listening to Other Students (% YES)

Upper Elementary		Junior High		Senior High	
English	75%	English	54%	Social Studies	46%
Social Studies	71	Social Studies	49	English	42
Science	67	Science	30	Foreign Lang.	30
Mathematics	55	Voc. Ed.	30	Science	26
		Foreign Lang.	27	Voc. Ed.	25
		Arts	23	Arts	16
		Math	13	Math	9

4. Listen to or watch records, tapes, films, filmstrips, television. Teachers reported the frequency with which their students participated in these types of activities for each of the subject areas. Upper elementary and secondary students indicated whether or not they did the things listed above. And one of the observation-Snapshot activities was student use of audio visual equipment. We can see from Table 1.32 that teachers at all levels reported infrequent use of television for all subjects. There are somewhat higher means for students listening to records or tapes and watching films, filmstrips, or slides. And at all three levels, students apparently watched films, filmstrips or slides most frequently in social studies and science classes. I am somewhat surprised that there weren't higher mean scores for watching films/filmstrips in arts classes. But, then again, these data just support the emerging image of arts classes focusing mainly on production activities. We can also see a trend of reduced use of all of these types of audio visual equipment across subjects as level of school increased. This supports the statement made above that while listening to or watching the teacher increased with level of schooling, there was a decrease in students listening to or watching other persons or audio visual equipment. Perhaps, other data will add to this image of students' classroom experiences becoming more focused and dependent on teachers as they move up through the grades.

It is somewhat more difficult to point to trends and patterns in students' report of their use of audio visual equipment because they only reported whether or not they had ever participated in the activities. But, generally, we see smaller percentages of secondary students reporting use of such equipment (Table 1.33).

TABLE 1.32

Teachers' Report of Frequency of Student Use of Audio Visual Equipment*

	Listen to records/tapes			Watch films/ filmstrips/slides			Watch television		
Elementary	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N
English/Reading	2.55	-	235	2.42	-	235	1.68	-	235
Mathematics	1.65	0.80	214	1.86	0.68	213	1.32	0.64	214
Social Studies	2.07	0.81	193	2.86	0.64	195	1.71	0.77	195
Science	1.80	0.77	175	2.80	0.72	181	1.61	0.82	175
Arts	2.58	0.79	172	2.16	0.73	172	-	-	-
Junior High	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N
English	2.40	-	83	2.32	-	83	1.49	-	83
Mathematics	1.33	0.74	71	1.72	0.74	71	1.14	0.42	71
Social Studies	2.11	0.70	53	1.79	0.49	53	1.73	0.80	52
Science	1.67	0.63	46	2.72	0.62	46	1.35	0.53	46
Arts	2.80	0.75	46	2.04	0.70	46	-	-	-
Foreign Lang.	2.33	0.65	12	2.42	0.52	12	1.50	0.90	12
Senior High	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N
English	2.12	-	130	1.93	-	130	1.43	-	130
Mathematics	1.21	0.55	89	1.45	0.58	88	1.10	0.38	87
Social Studies	1.96	0.72	92	2.63	0.62	92	1.60	0.71	91
Science	1.48	0.64	77	2.52	0.72	77	1.29	0.48	76
Arts	1.97	0.73	65	2.02	0.70	64	-	-	-
Foreign Lang.	2.82	0.95	33	2.43	0.82	35	1.20	0.47	35

* Response codes: 1 = never
2 = not very often
3 = often
4 = always or most of the time

TABLE 1.33

Students' Report of Use of
Audio Visual Equipment (% YES)

	Listen to records/tapes		Watch films/ filmstrips/slides		Watch television	
Upper Elementary	% YES	N	% YES	N	% YES	N
English	80	1587	86	1597	80	1589
Mathematics	65	1561	73	1557	71	1560
Social Studies	70	1539	82	1540	72	1536
Science	69	1502	81	1506	71	1508
Arts	73	1559	70	1559	-	
Junior High	% YES	N	% YES	N	% YES	N
English	32	1634	46	1644	16	1636
Mathematics	6	1660	21	1660	4	1657
Social Studies	27	1400	85	1408	10	1397
Science	19	1060	84	1060	9	1058
Arts	73	1176	46	1175	-	
Foreign Lang.	51	217	59	217	7	217
Senior High	% YES	N	% YES	N	% YES	N
English	29	1781	42	1782	4	1781
Mathematics	4	1589	9	1589	3	1582
Social Studies	23	1729	76	1736	6	1732
Science	7	1311	65	1314	3	1314
Arts	80	1402	41	1404	-	
Foreign Lang.	72	534	61	534	2	534

The Observation-Snapshot data also support the statement that older students used audio visual equipment less frequently than did younger students. The differences in means are admittedly quite small, but because the data reflect a trend noted in other data, they add to our developing picture of teaching and learning.

Table 1.34

Snapshot Data: Probability of a Student Having Been Observed Listening to or Watching Audio Visual Equipment

Level of Schooling	%
Early Elementary	6.8
Upper Elementary	4.9
Junior High	4.1
Senior High	2.8

Read. Many people often think of reading as one of the main activities that occupies, or should occupy, students during their classroom hours. While we know that books are a major, if not the major, instructional material used in many of our classrooms, I am concerned here with students actually reading. Our survey data from teachers and students provide only sketchy information about how often students were engaged in reading activities. Reading was listed as an activity for only three subjects, English, social studies, and the arts. Teachers' report of the frequency with which students read in these subjects across the levels of schooling suggest that only in English and elementary social studies classes did students read often (Table 1.35). It is also interesting to note that the means for elementary and junior high English are identical.

TABLE 1.35

Teachers' Report of Frequency of Students Reading*

	English			Social Studies			Arts		
	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N
Elementary	3.13	0.70	235	2.68	0.75	192	1.80	0.87	172
Junior High	3.13	0.69	84	2.36	0.71	53	2.17	0.61	46
Senior High	2.66	0.73	131	2.04	0.76	91	2.19	0.66	64

* Response codes: 1 = never; 2 = not very often; 3 = often; 4 = always, most of the time

Students' report of whether or not they read in class shows patterns similar to those revealed by the teacher data. More upper elementary and junior high students than senior high students reported reading in English; the percentage of students who indicated reading in social studies classes declined with level of schooling; and the proportion of students who reported reading in arts classes was stable across levels.

TABLE 1.36

Students' Report of Whether or Not They Read in Class (% YES)

	English	Social Studies	Arts
Upper Elementary	78	--	--
Junior High	76	52	38
Senior High	55	42	38

The Snapshot section of the observation instrument gives us more complete information about reading as an observed student activity. The data presented in Table 1.37 are percentages averaged across all classes at each level of schooling. What we see is a slight decrease in reading as level of schooling increased. If there was a smaller probability

that older students were observed reading, one wonders what activities they were more likely to have been observed doing.

TABLE 1.37

Snapshot Data: Probability of a Student Having Been Observed Reading

Level of Schooling	%
Early Elementary	6.0
Upper Elementary	5.5
Junior High	2.8
Senior High	1.9

Work on written assignments. In addition to reading, working on written assignments is another activity which many people assume is typical of what students do in school. Our data support this notion that it was common for students to be engaged in written work. In the major academic subjects, over 80 percent of the students reported writing answers to questions (Table 1.38). And the Snapshot data reveal relatively high probabilities of students having been observed working on written assignments (Table 1.39). One explanation for the fairly steep decline of the percentages in Table 1.39 as level of schooling increased, is that our class sampling plan guaranteed that we include proportionate numbers of arts, vocational education and physical education classes in secondary schools. Thus, because written work was not as predominant in these classes, the level averages for junior and senior high schools are lowered.

TABLE 1.38

Percent of Students Who Reported Writing Answers to Questions

	Upper Elementary	Junior High	Senior High
English	89%	86%	81%
Math	87	92	94
Social Studies	88	94	89
Science	82	91	92
Arts	73	44	31
Foreign Lang.	-	91	96
Voc. Ed.	-	69	77

TABLE 1.39

Snapshot Data: Probability of a Student
Having Been Observed Working on Written Assignments

Level of Schooling	%
Early Elementary	28.3
Upper Elementary	30.4
Junior High	20.7
Senior High	15.1

Make things, do psycho-motor or physical activities. Just as the likelihood that students were observed working on written assignments decreased with level of schooling because of the inclusion of a large percentage of non-academic classes in the secondary schools, the probability that students were observed involved in psycho-motor or physical activities increased with level of schooling. (Table 1.40).

TABLE 1.40

Snapshot Data: Probability of a Student Having Been Observed Involved in Psycho-Motor or Physical Activities

Level of Schooling	%
Early Elementary	7.3
Upper Elementary	5.3
Junior High	14.7
Senior High	17.5

When we examine teachers' report of the frequency with which students made things (Table 1.41) we can compare level differences for each subject. Here, we see a decrease in this type of activity in the academic subjects as level of schooling increased. The drop is especially noticeable in English and social studies. In contrast, the means increase for arts across the levels.

TABLE 1.41

Teachers' Report of the Frequency of Students Building, Drawing, Making Things or Performing*

	Elementary			Junior High			Senior High		
	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N
English	2.75	0.76	238	2.07	0.75	85	1.59	0.72	131
Math	2.48	0.82	212	2.20	0.71	71	2.11	0.80	89
Social Studies	2.65	0.72	196	2.30	0.80	53	1.75	0.84	91
Science	2.83	0.68	179	2.63	0.71	46	2.47	0.74	75
Arts	3.06	0.81	173	3.39	1.00	46	3.42	0.97	65
Voc. Ed.	-	-	-	2.94	0.99	47	2.44	1.21	140

* Response codes: 1 = never; 2 = not very often; 3 = often; 4 = always or most of the time

Act, role play. The Snapshot data also tell us about student involvement in acting and role playing activities. When looking across subjects, we see a very small likelihood that students at any level of schooling were observed participating in such activities (Table 1.42).

TABLE 1.42

Snapshot Data: Probability of a Student Having Been Observed in Simulation or Role Playing Activities

Level of Schooling	%
Early Elementary	0.2
Upper Elementary	0.4
Junior High	0.2
Senior High	0.1

Students and teachers also reported on student participation in such activities in English, social studies, and arts classes. Somewhat less than one-half of upper elementary students said that they acted out things in these three subjects. At the secondary level, less than one-fourth of the students reported participating in acting activities in English and social studies classes (Table 1.43). Teachers' responses support these responses in that they indicated students only infrequently acted out things in English and social studies classes (Table 1.44).

TABLE 1.43

Students' Report of Their Participation in Acting Activities (% YES)

	Upper Elementary	Junior High	Senior High
English	49%	28%	19%
Social Studies	41	16	13
Arts	44	--	--

TABLE 1.44

Teachers' Report of Mean Frequency of Student Participation in Acting Activities*

	Upper Elementary	Junior High	Senior High
English	2.30	2.05	1.82
Social Studies	2.19	1.96	1.60

* Response codes: 1 = never; 2 = not very often; 3 = often; 4 = always or most of the time

Taking tests. If students infrequently participated in role playing/acting activities, they apparently had more frequent experience taking tests. Teachers indicated that, generally, for most subjects, except the arts, students often took tests or quizzes (Table 1.45). While secondary students seemed to have taken tests a little more frequently than did elementary students, the differences are not great.

TABLE 1.45

Teachers' Report of Frequency of Students Taking Tests*

	Upper Elementary			Junior High			Senior High		
	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N
English	2.61	0.73	235	2.92	0.70	84	2.78	0.68	131
Math	2.84	0.83	215	3.17	0.57	69	3.04	0.56	89
Social Studies	2.14	0.87	193	2.92	0.51	53	2.84	0.54	91
Science	2.04	0.87	179	2.63	0.61	46	2.84	0.56	77
Arts	1.33	0.65	172	2.13	0.71	47	1.91	0.67	66
Foreign Lang.	-	-	-	3.17	0.39	12	3.09	0.73	33
Voc. Ed.	-	-	-	2.48	0.62	46	2.69	0.63	140

* Response codes: 1 = never; 2 = not very often; 3 = often; 4 = always or most of the time

Students' report of whether or not they took tests or quizzes supports the trends noted above (Table 1.46). Clearly, most students had taken tests or quizzes in most classes. And the differences between elementary and secondary school classes were not great. This is further shown by the Snapshot data (Table 1.47).

TABLE 1.46

Students' Report of Having Taken Tests (% YES)

	Upper Elementary		Junior High		Senior High	
	%	N	%	N	%	N
English	87	1585	89	1628	89	1778
Math	87	1546	94	1664	96	1584
Social Studies	86	1516	93	1396	95	1726
Science	79	1490	91	1054	96	1312
Arts	74	1559	59	1151	57	1466
Foreign Lang.	-	-	95	216	99	536
Voc. Ed.	-	-	73	1018	85	1712

TABLE 1.47

Snapshot Data: Probability of a Student Having Been Observed Taking a Test

Level of Schooling	%
Early Elementary	2.2
Upper Elementary	3.3
Junior High	5.5
Senior High	5.8

Discussion, responding to teachers' questions, and asking questions. The three remaining student activities all concern student verbal interaction with other students or their teachers. Again, we can see from examining Table 1.48 that like test taking activities, there did not

appear to be notable differences among the levels of schooling.

TABLE 1.48

Snapshot Data: Probability of a Student Having Been Observed in a Discussion

Level of Schooling	%
Early Elementary	5.3
Upper Elementary	7.7
Junior High	4.2
Senior High	5.1

The observation FMI data do show some differences, though, regarding the frequency of students responding to teachers' questions (Table 1.49). Almost twice the percentage of FMI frames, on the averrge, were recorded for early elementary students responding to their teachers than were coded for senior high school students. This finding is not all that surprising considering we noted above that elementary school teachers were observed to have asked proportionately more questions than did secondary school teachers.

TABLE 1.49

Average Percentage of FMI Frames of Students Responding to Teachers' Questions, Requests*

Level of Schooling	% Frames
Early Elementary	16.73
Upper Elementary	12.98
Junior High	9.89
Senior High	8.61

* This variable refers to students' compliant responses to teacher questions or requests.

Comparison of Tables 1.49 and 1.50 show that a smaller percentage of frames, on the average, were observed for students asking questions of teachers than for their responding to teachers' questions. This difference is greater for elementary students than for secondary students. Younger students had questions asked of them more frequently, answered questions more frequently, but asked questions less frequently than did older students.

TABLE 1.50

Average Percentage of FMI Frames of Students Asking Questions of Teachers

Level of Schooling	% Frames
Early Elementary	2.23
Upper Elementary	3.68
Junior High	4.27
Senior High	4.05

Summary of students' activities. What can we say, then, about the nature of students' classroom activities? First, looking at just the activities listed in the Snapshot Section of the observation instrument, it appears that students at all levels of schooling were most likely involved in traditional activities such as doing written work, listening to lectures, or preparing for assignments (Table 1.51). As previously explained, the relatively high probability for practice/performance activities of a physical nature at the senior high school level is probably due to the sampling plan which included a high proportion of non-academic classes which focus on these types of activities.

TABLE 1.51

Snapshot Data: Rank order of Activities By Probability of Students Having Been Observed Participating in Each

Early Elementary Activity	%	Upper Elementary Activity	%
Written Work	28.3	Written Work	30.4
Listen to Explanations/ Lectures	18.2	Listen to Explanations/ Lectures	20.1
Preparation for Assignments	12.7	Preparation for Assignments	11.5
Practice/Performance- Physical	7.3	Discussion	7.7
Use AV Equipment	6.8	Reading	5.5
Reading	6.0	Practice/Perform- Physical	5.3
Student Non-task Behavior-No Assignment	5.7	Use AV Equipment	4.9
Discussion	5.3	Student Non-task Behavior-No Assignment	4.8
Practice/Performance- Verbal	5.2	Practice/Perform- Verbal	4.4
Taking tests	2.2	Taking Tests	3.3
Watch Demonstrations	1.5	Watch Demonstrations	1.0
Being Disciplined	0.5	Simulation/Role Play	0.4
Simulation/Role Play	0.2	Being Disciplined	0.3

Junior High Activity	%	Senior High Activity	%
Listen to Explanations/ Lectures	21.9	Listen to Explanations/ Lectures	25.3
Written Work	20.7	Practice/Perform- Physical	17.5
Preparation for Assignments	15.9	Written Work	15.1
Practice/Perform- Physical	14.7	Preparation for Assignment	12.8
Taking Tests	5.5	Student Non-task Behavior-No Assignment	6.9
Discussion	4.2	Taking Tests	5.8
Practice/Perform- Verbal	4.2	Discussion	5.1
Use AV Equipment	4.1	Practice/Perform- Verbal	4.5
Student Non-task Behavior-No Assignment	3.6	Use AV Equipment	2.8
Reading	2.8	Reading	1.9
Watch Demonstrations	1.5	Watch Demonstrations	1.6
Simulation/Role Play	0.2	Simulation/Role Play	0.1
Being Disciplined	0.2	Being Disciplined	0.1

The rank orders in Table 1.51 also show that the probability was slight that a student was observed being disciplined. Somewhat higher probabilities exist for student participation in non-task behavior or social interaction with teachers when no assignment was given. It is interesting, but not surprising, that there was a rise in this activity at the senior high level. Teachers would seem more likely to interact socially with teenaged students. There are no level differences, though, when we examine data about the probability of students being observed in non-task behavior when subject work was assigned (Table 1.52). I find it revealing that there was a greater likelihood of students engaging in such non-task behavior than in being disciplined. Perhaps, teachers disciplined students less frequently than usual because of the presence of our observers. Or, perhaps, there is a certain amount of non-task behavior that escapes most teachers' attention. Still, though, it should be pointed out that it was much more likely for students at any level to have participated in on-task than non-task activities.

TABLE 1.52

Snapshot Data: Probability of a Student Having Been Observed in Non-Task Behavior When Subject Work Was Assigned*

Level of Schooling	%
Early Elementary	2.1
Upper Elementary	3.1
Junior High	3.1
Senior High	2.0

* This variable is a global rating of student "mis-behavior." It is not mutually exclusive of other Snapshot activities in that students could have been coded as members of a reading group, but because they were misbehaving, they were also coded as engaging in non-task behavior.

Another observation that emerges from Table 1.51 is that there seemed to be a greater variety of activities observed more frequently in the elementary than the secondary school classrooms. In fact, the data in Table 1.53 support this statement. These data represent the mean number of activities recorded per observation (approximately one secondary school class period or one hour of elementary school class time). Again, the differences among levels are not great, but they do suggest a trend of greater variety of on-going activities in elementary classrooms. At any given point in time, though, there was an average of about only one activity occurring (mean number of activities per Snapshot) in class at any level. The information about grouping practices reported in another section of this report will help us learn whether or not the teacher working with the total class is the predominate mode.

TABLE 1.53

Snapshot Data: Variety of Activities

Level of Schooling	$\bar{X}$ No. By Snapshot	$\bar{X}$ No. By Observation
Early Elementary	1.2	5.1
Upper Elementary	1.1	4.4
Junior High	0.9	1.8
Senior High	1.0	1.7

Regarding the specific activities as discussed above, the following statements seem to be justified. First, while students listening to or watching the teacher increased with level of schooling, older students were less likely to listen to or watch other students, guest speakers, or audio visual equipment. Older students were also less likely to have been reading or responding to teachers' questions or requests. Of course, we must

remember that teachers of secondary students also asked questions less frequently than did teachers of elementary students. In contrast, older students were more likely to have been observed asking questions of their teachers. And, while the probability increased with level of schooling that, in general, students were engaged in practice or performance activities of a physical nature, there seemed to be a decrease in this activity with level of schooling when just the academic subjects are considered. Working on written work was a common activity at any level, while simulation or role playing was a very uncommon activity. Finally, it appeared that taking tests was a frequent occurrence in most classes except for arts classes.

SECTION II: CLASSROOM STRUCTURES

Dunkin and Biddle in their book, The Study of Teaching (1974) described school classrooms in terms of their most common and persistent characteristics. The average classroom has one teacher and thirty or more students of equal age. Elementary teachers are usually subject-matter generalists and secondary teachers are usually subject-matter specialists. Most classes have male and female students. The majority of classrooms are rectangular in shape and have the usual teacher and student desks, chalkboards and bulletin boards. Common activities are teachers lecturing or demonstrating, teacher-student interaction, and students doing seat work. Most elementary students spend each day with the same teacher, while secondary students move from room to room and teacher to teacher during each day. Finally, classrooms are characterized by certain rituals including students raising their hands to be called on, generally speaking one at a time in group discussions, and asking for permission to leave the room.

If the above description characterizes most classrooms today, Dunkin and Biddle maintain that it also describes classrooms of previous days. They suggest that basic teaching practices and classroom structures have actually changed little over the years because teachers use their own experience as students, model their master/supervising teachers during their teacher education programs, and most importantly, at a minimal level classroom teaching seems to work. This latter reason intrigues me the most because it seems to be supported by the Study of Schooling data examined thus far. Teachers and students appear to have operated in a reasonably functioning environment. Their common activities were similar to those cited by Dunkin and Biddle in the above description. Teachers and students, therefore, were doing pretty much what was expected of them; teachers

taught and students assumed the role of learners. It should be pointed out, though, that the survey nature of our study prevents us from discovering the "real" nature of students' experiences in school. But, in terms of the data we do have, classroom life was working.

Yet, working for whom? As Christopher Hurn points out in The Limits and Possibilities of Schooling (1978) .

> ...there is a widespread perception on the part of educators, intellectuals, and spokesmen for disadvantaged groups that schools have failed to promote anything like full equality of opportunity after more than a decade of educational reform directed to that end. (p. 3).

In addition to the failure to promote equality through the schools, Hurn also points to the concern of humanists that schools have failed to "maximize the growth and development of each individual student" (p. 2). Finally, he also cites the dissatisfaction of many of the lay public who still believe in the model of the traditional school, but who are concerned with the apparent decline in learning of basic cognitive skills.

Whether or not schools can accomplish all of the above, plus more, is a question we must grapple with. But our concern here is what was going on in a sample of 38 schools? What I am suggesting is that at a general level, our 38 schools were characterized by processes and structures which worked in a traditional way, perhaps not too differently from years past. The similarity between the data about teaching and learning presented in Section I of this report and the information to follow, with Dunkin and Biddle's description of classroom life is striking.

Teacher to Student Ratio

We can see from Table 2.1 that while our observers recorded an average of one teacher per class, the average number of students was somewhat under the often cited figure of 30. The even lower average number recorded for

senior high school classes seems to have resulted from the class sampling plan. Because we were interested in obtaining a range of types of classes, we included several secondary classes which were quite small in terms of student enrollment. There were more of these classes, such as some vocational education, arts, or even advanced mathematics courses, at the senior high than at the junior high level. In the senior high general academic classes, though, the average number of students was somewhat higher than the number when averaged across all classes.

TABLE 2.1

Snapshot Data: Average Number of Observed Teachers, Aides and Students Per Class

Level of Schooling	No. Teachers	No. Aides	No. Students
Early Elementary	1.0	0.5	27.2
Upper Elementary	1.0	0.2	28.8
Junior High	1.0	0.2	27.3
Senior High	1.0	0.1	23.0

The trend toward a greater proportion of aides at the early elementary level is not surprising. First, government funds have often been used over the last decade to hire aides to work in the younger grades in an attempt to improve student learning of basic skills. Also, it is generally understood that very young children require more individual attention that can be given by one teacher to 25 or 30 students.

Classroom Space and Furnishings

If the teacher-student class ratio was pretty much as expected, the most common characteristics of the physical environment of the classrooms are not surprising either. In Table 2.2 are listed the most commonly

observed class characteristics for room size, configuration of student desk or tables, existence of learning centers, stuffed furniture and rugs or carpets. A sizeable majority of the classes at each level of schooling had single, enclosed rooms, desks or tables in rows, no learning centers, no stuffed furniture, and no rugs or carpets.* Clearly, these data do not evoke images of non-traditional classrooms structured in unique ways with unusual furniture. No, what comes to mind are classrooms that look and function pretty much as classrooms in American schools have for the past several years, if not decades.

TABLE 2.2

Snapshot Data: Classroom Space and Furniture,
Most Common Characteristics by Level

	Early Elementary	Upper Elementary	Junior High	Senior High
% of Classes in Single Rooms	88.4	83.3	89.4	84.6
% of Classes with desks/tables in rows	61.2	73.7	70.0	75.6
% of Classes with no learning centers	56.7	65.0	80.9	88.9
% of Classes with no stuffed furniture	92.8	95.0	98.9	98.9
% of Classes with no rugs, carpets	58.0	76.7	90.1	86.5

With such a large percentage of classes where students sat in rows and that had no learning centers, it is also not unusual that we have found relatively infrequent use of more innovative learning materials such as learning kits, audio visual equipment, simulations, etc. Students who sit

*The reader should note that at the early elementary level, the percentage of classes with no learning centers and no rugs or carpets is just over 50 percent.

at desks or tables placed in rows are limited in the types of activities and materials that they can participate in and use. A single desk or table is only so large, and the back of another student's head does not provide for much student interaction. Instead, the preponderance of classrooms where the desks or tables were observed to be in rows suggests the existence of the frontal approach to teaching and learning where students' attention is supposed to be focused on either the teacher or on their own seat work.

Student Cooperative and Independent Learning.

Considering that in most classes students were sitting in rows, it is not surprising that we saw little evidence of cooperative student learning (Table 2.3). Alternatively, because we saw in Section I of this report that students working on written work was a fairly frequently occurring activity, it is not strange that there is such a high probability that students were observed working independently. Again, this is a traditional picture of classroom life that was observed. The emphasis on independent learning appears to still predominate over cooperative, group learning.

TABLE 2.3

Snapshot Data: Probability of a Student Having Been Observed Working Independently and Cooperatively

Level of Schooling	% Independently	% Cooperatively
Early Elementary	39.9%	5.0%
Upper Elementary	40.3	4.5
Junior High	37.7	7.8
Senior High	34.7	9.4

Grouping Practices

If students had infrequent experience working cooperatively with their peers, it seems as if they had relatively frequent experience in teacher-directed total class activities (Table 2.4). The increased likelihood that older students were observed in this situation supports other data reported in Section I of this report that suggest an increase in a frontal approach to teaching as level of schooling increased.

TABLE 2.4

Snapshot Data: Probability of a Student Having Been Observed in Teacher Directed Total Class Activities

Level of Schooling	%
Early Elementary	38.7
Upper Elementary	44.5
Junior High	47.9
Senior High	48.7

We see the same trend when data about observed group size are examined, regardless of who directed the activities (Table 2.5). Not only was their a slightly greater probability that secondary students were observed working as a member of the total class, but it is clear that this grouping structure was much more common than any other. It is also interesting to note, though, that large groups appeared to be second most common at the elementary and junior high levels, but small groups were next most common at the senior high level. This somewhat higher use of small groups in senior highs is consistent with the slightly higher evidence of cooperative student learning at this level of schooling. It is not unreasonable to assume that teachers find it easier to have older students work together without direct teacher guidance. But, it also seems reasonable that students

need to learn how to work together cooperatively, and that such learning probably should begin when they are young.

TABLE 2.5

Snapshot Data: Probability of a Student Having Been Observed in Different Sizes of Groups

Level of Schooling	One Student	Small Group	Medium Group	Large Group	Total Class
Early Elementary	2.4%	8.1%	12.1%	19.2%	58.2%
Upper Elementary	1.7	5.6	6.5	18.0	68.1
Junior High	2.9	8.4	4.5	11.2	72.9
Senior High	3.7	11.4	6.0	8.1	70.9

The data displayed in Table 2.6 suggest a trend noted before that there appeared to be less variety in secondary than in elementary school classrooms. In Section I, we saw that a greater variety of activities were recorded in elementary than in secondary classes. Here, we see that while the mean number of group configurations observed per snapshot was similar across levels, the mean number per observation (approximately one hour or one secondary class period) was quite a bit higher for elementary schools.

TABLE 2.6

Snapshot Data: Variety of Grouping Configurations

Level of Schooling	$\bar{X}$ No. By Snapshot	$\bar{X}$ No. By Observation
Early Elementary	1.4	4.2
Upper Elementary	1.3	3.6
Junior High	1.3	1.9
Senior High	1.2	1.9

Individualization of Instruction

Analysis of teachers' responses to items about individualization of instruction suggests that the recent past efforts to encourage teachers to individualize instruction were not entirely successful. Especially at the secondary levels of schooling, teachers indicated that they only infrequently or never used different objectives, content, materials or grouping to individualize. The elementary school teachers reported more frequent use of each of the listed approaches to individualization. These responses are consistent with much of the data reported thus far that point to a greater variety of activities and grouping configurations being used in elementary than in secondary classrooms. I wonder what it is about elementary classrooms and teachers that resulted in an apparently more active and innovative environment?

First, we did note earlier that a larger percentage of elementary than secondary classrooms did not have desks/tables in rows and did have learning centers. Perhaps, the more varied and flexible physical environment of the elementary classrooms allowed for greater variety of activities and grouping arrangements which, in turn, made it easier for teachers to individualize their instruction. Now, obviously, we cannot assume a directional causal relationship here, for it may be that the greater desire of elementary teachers to individualize their programs led them to create a supportive classroom environment. Or, in turn, perhaps the different organization of elementary schools, which places a group of students with one teacher, and of secondary schools, where students move from room to room and teacher to teacher, account for the other differences mentioned above. Furthermore, the more extensive preparation and concern of secondary teachers with a

particular subject area may result in their attention being directed toward the content of their teaching rather than the instructional practices they employ.

While it is possible to distinguish between elementary and secondary classes according to the extent of individualization which existed, I must stress that despite the differences, elementary classrooms, on the average, were not models of recent educational innovations. Much of what went on seems to still fit a rather traditional model of schooling.

Summary

If we compare the composite image of classrooms that emerges from the Study of Schooling data with the characterization by Dunkin and Biddle cited above, the similarities are greater than the differences. Given this picture of a basically traditional and generally functioning classroom, what can we say about the extent to which classroom structures provided for the growth of each individual student as well as students' social developemnt? Ironically, it seems as if, on the average, classroom life did not foster either of these goals. Students were usually members of a class or classes which averaged about 27 students. While it was fairly likely that they were involved in doing their work independently without interacting with other students, the rest of their classmates were probably doing the same thing. Teachers--especially at the secondary level--did not provide overly individualized programs. Thus, students may have been working by themselves, but everything else about their assigned work probably differed little from what their peers were doing. Generally, it seems as if classrooms were structured so as to encourage student reliance on their teachers rather than themselves or their peers.

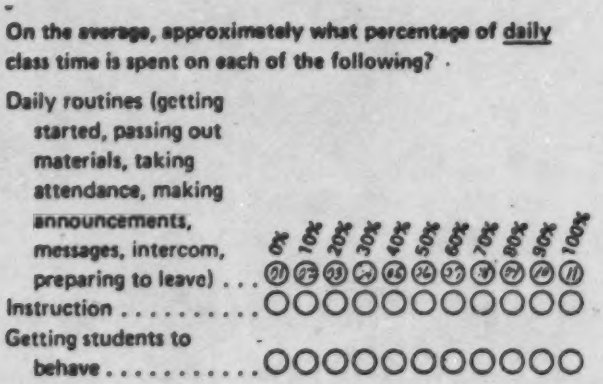
Obviously, not all classrooms in all 38 schools matched this description. Hopefully, additional analyses and further reports will point to those classes which did differ and, perhaps, explore the reasons why.

SECTION III: CLASSROOM MANAGEMENT

USE OF TIME

Much attention has been focused on time as an important factor in classroom teaching and student learning. Allocated time, time available for learning, time-on-task, engaged student learning time, and active learning time are terms being used by Bloom, 1980; Rosenshine and Berliner, 1978; Carroll, 1963; and others. The assumption underlying the interest in use of time appears to be that learning is highly related to measures of time. While some researchers have demonstrated a relationship between time available for learning and achievement scores (Harnischfeger and Wiley, 1974), others have shown that achievement is related not to allocated time but to academic engaged time (Rosenshine and Berliner, 1978).

Data from A Study of Schooling yield various types of information about the use of class time. First, we have teachers' perceptions of the approximate percentage of class time spent on instruction, routines, and getting students to behave.



About 75 percent of the secondary teachers gave responses which total 100 percent. There are several plausible reasons why the remaining

teachers selected responses which either add to less than or more than 100 percent. Because the item did not specify that the percentages should total 100 percent, it is possible that some teachers thought of other activities in addition to the three we listed which together account for all of class time. Perhaps other teachers interpreted "instruction" more narrowly than we intended and, therefore, reported a relatively small percentage of time for this category. Still other teachers who had totals above 100 percent may have decided that the three categories were not mutually exclusive, but actually overlapped in reality.

Another type of information about class time comes from students. Early elementary school students selected the one category (learning, routines or behavior) which took the most time. All other students rank ordered the categories according to which took the most, the next most, and the least amount of time.

Early Elementary Students

25 WHAT TAKES THE MOST TIME IN THIS CLASS?

1. Passing out materials and taking attendance

2. Learning

3. Getting students to behave

Upper Elementary and Secondary Students

7. In this class, how much time is usually taken by the following 3 things?

Mark the circle under the word "Most" for the thing that takes the most time.

Mark the circle under the words "Next Most" for the thing that takes the next most time.

Mark the circle under the word "Least" for the thing that takes the least amount of time.

	Least	Next Most	Most
(1) Daily routines (passing out materials, taking attendance, making announcements)	ⓛ	ⓝ	○
(2) Learning	ⓛ	ⓝ	○
(3) Getting students to behave	ⓛ	ⓝ	○

A third set of data comes from the observation instrument. From the Five Minute Interactions we gain information about the percentage of observed teacher behavior that was classified as instruction, routines, behavior, or socialization. The Snapshot yields data about (1) the percentage of class activities, irrespective of who participated in them, in each category; (2) the percentage of teachers' activities in each category; and (3) the probability that any student was involved in activities in each category.

By combining all of this information we obtain a fairly complex description of the use of class time. While our estimate of instructional time is more than just teacher report of allocated time, it is not a measure of student engaged time. We do have, though, a rating of the percentage of students who appear to be at a high interest level. Perhaps, it is most important to realize that while we talk of class time, our various measures do not involve recording of minutes or hours. We cannot say that students had 55 minutes of time available for learning or that 75 percent of the students were engaged in learning mathematics for 30 minutes a day. What we can do is discuss the distribution of class time according to various activities and categories of activities from the perspective of teachers, students, and the class as a whole.

Students

By level. Students at each level of schooling reported that instruction accounted for the most class time. (Table 3 -1). The percentage of students who selected this category increased at each higher level so that while 45 percent of early elementary students selected instruction as taking the most time, 53 percent of upper elementary, 63 percent of junior high, and 73 percent of senior high school

students made the same selection. In contrast, the percentages of students who selected either behavior or routines as taking the most class time decreased at each higher level of schooling. While about one-third of the elementary students reported that behavior accounted for the most time, about one-fourth of the junior high students, and about one-seventh of the senior high students selected this category. The smallest percentage of students selected routines as accounting for most class time spent, ranging from a little more than one-sixth of the elementary students to a little more than one-ninth of the secondary students.

It is important to note that while more students at each level perceived instruction as taking the most time, over one-third of elementary students reported that behavior accounted for the most time. I think it is plausible to assume that this emphasis on behavior at the elementary level results from developmental factors such as young children's concern with social relationships and the school's attempt to socialize them into acceptable behavior patterns. As children progress through the grades those who can accept school standards are likely to remain in the system and those who can't drop out. Therefore, it is logical to expect student behavior problems to decrease as grade level increases.

Table 3 -1

Percentage of Students Who Selected Each Category As Taking the Most Class Time

	Early Elementary (N = 1775)	Upper Elementary (N = 1611)	Junior High (N = 8876)	Senior High (N = 10,872)
Instruction	44.6%	52.8%	62.5%	72.8%
Behavior	37.4	31.9	24.2	14.7
Routines	18.0	14.4	12.4	11.0

By subject. When secondary students' perceptions about the use of class time are examined by subject area, some interesting differences emerge. The rank order of student mean responses for ranking of instruction as a category of time show that the academic subjects cluster together. (Table 3 -2). Instruction was perceived by junior high school students in these classes as taking proportionately more class time as compared to arts, vocational education and physical education classes. A similar pattern exists for senior high students, though it is not quite as distinct. At both levels of schooling it is clear that foreign language classes are different than all other academic subjects, in that significantly more students in these classes ranked learning higher than the other categories.

I find it intriguing that once again, we find subjects clustering into more or less two groups--academic and non-academic. It should be noted though, that while arts, physical education and vocational education group together at the junior high level, the latter subject clusters with the academic classes at the senior high level, and physical education is more or less by itself at the bottom of the list.

Table 3 -2

Rank Order of Students' Mean Rankings of Proportionate Time Spent on Learning*

Junior High				Senior High			
Subject	$\bar{X}$	SD	N	Subject	$\bar{X}$	SD	N
Foreign Language	2.73	0.54	217	Foreign Language	2.82	0.47	530
Social Studies	2.62	0.60	1401	Mathematics	2.70	0.58	1577
Mathematics	2.59	0.64	1651	Vocational Ed.	2.68	0.57	1711
English	2.54	0.69	1627	English	2.67	0.60	1790
Science	2.50	0.69	1049	Science	2.66	0.61	1300
Arts	2.44	0.71	1167	Social Studies	2.64	0.62	1736
Vocational Ed.	2.40	0.72	1008	Arts	2.62	0.63	1464
Physical Ed.	2.39	0.74	745	Physical Ed.	2.51	0.71	756

*Response choices were coded as follows: 1 = least amount of time
2 = next most amount of time
3 = most time

Despite these differences between subjects, there are also similarities. For each subject at both levels of schooling, instruction was rated as accounting for the most class time. But there is an interesting pattern which occurs by level regarding the order of the amount of time taken up by routines and behavior. At the junior high school level, behavior was rated as taking more time than routines across all eight subjects. And for the senior high schools, routines were perceived by students as accounting for more time than behavior for all subjects except math (Table 3 -3).

Table 3-3

Students' Perception of Use of Class Time:
Mean Rankings Reported by Subject and Level

		Routines			Instruction			Behavior		
		$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N
English	Mid	1.60	0.69	1629	2.54	0.69	1637	1.84	0.78	1634
	Highs	1.67	0.64	1789	2.67	0.60	1790	1.60	0.74	1780
Math	Mid	1.57	0.69	1654	2.59	0.64	1651	1.80	0.76	1659
	Highs	1.59	0.64	1578	2.70	0.58	1577	1.64	0.72	1579
Social	Mid	1.59	0.68	1397	2.62	0.60	1401	1.75	0.76	1398
Studies	Highs	1.66	0.67	1737	2.64	0.62	1736	1.64	0.75	1740
Science	Mid	1.61	0.69	1053	2.50	0.69	1049	1.85	0.79	1053
	Highs	1.65	0.65	1299	2.66	0.61	1300	1.63	0.73	1306
Arts	Mid	1.57	0.70	1168	2.44	0.71	1167	1.99	0.80	1168
	Highs	1.69	0.70	1465	2.62	0.63	1464	1.62	0.73	1471
Foreign	Mid	1.41	0.59	219	2.73	0.54	217	1.75	0.67	218
Language	Highs	1.73	0.58	531	2.82	0.47	530	1.43	0.64	531
P.E.	Mid	1.69	0.74	748	2.39	0.74	745	1.89	0.81	746
	Highs	1.81	0.72	757	2.51	0.71	756	1.57	0.74	751
Voc. Ed.	Mid	1.65	0.72	1008	2.40	0.72	1008	1.86	0.82	1006
	Highs	1.65	0.67	1716	2.68	0.57	1711	1.60	0.72	1717

By track. These variables were also examined at the two secondary levels by track placement. Only tracks 1 through 3 (high, average, and low respectively) were used in this analysis. Track 4 was excluded because it represents a heterogeneous mixture of students within designated classes and therefore would confound any relationship between track level and other variables.

For both the junior and senior high school levels, there are moderate negative correlations between track and student ratings of time on instruction (See Table 3 - 4). This means that as track level increases, more students rated instruction as taking more time. Conversely, there is a positive correlation, moderate for senior high and mild for junior high, between track level and students' ratings of time on behavior. Thus, as track level increases, fewer students rated behavior as taking more time. These are precisely the type of relationships that one would expect to find considering what we already know about differences among tracked classes.

Table 3 -4

Track* by Secondary Students' Rankings of Time Spent on Instruction, Routines, Behavior

Junior High	r	sig. level	N
Routines	0.24	0.002	164
Instruction	-0.39	0.000	164
Behavior	0.25	0.001	164
Senior High			
Routines	-0.05	0.382	292
Instruction	-0.44	0.000	292
Behavior	0.38	0.000	292

*Only track 1, 2, 3 (High, Average, Low) were included in this analysis.

By school. Examination of Table 3 -5, reveals that there is a substantial range among schools regarding the percentages of early elementary students who selected learning as taking the most class time. Once again, our small school, Dennison, is right at the top. Perhaps the most interesting pattern, though, is that in five of the thirteen schools, the percentage of students who reported that behavior took the most time is about the same or even greater than the percentage who selected learning.

Table 3 -5

Percentage of Early Elementary Students
Who Selected Learning, Behavior, and Routines
As Taking Most Class Time: Rank Ordered by % Learning

School	% Learning	% Behavior	% Routines	N
Dennison	62.5	20.8	16.7	24
Euclid	56.3	22.7	21.1	128
Vista	55.2	33.8	11.0	145
Atwater	52.4	35.9	11.7	103
Rosemont	46.4	41.1	12.6	151
Crestview	45.1	38.9	16.0	144
Fairfield	44.2	34.3	21.5	172
Palisades*	43.5	44.2	12.2	147
Newport*	40.7	46.4	12.9	140
Laurel	39.5	32.5	28.1	114
Woodlake*	39.4	37.1	23.5	170
Bradford*	37.8	37.2	25.0	172
Manchester*	37.6	43.6	18.8	165

*At these schools the percentage of students who selected behavior was about the same or greater than the percentage who selected learning.

This same pattern exists regarding responses of upper elementary students at two schools, Crestview and Bradford The mean rankings for learning and behavior at these schools are almost the same (Table 3 -6). Only at one elementary school, Bradford, did students at both levels report that getting students to behave is as salient as is learning. Examination of teacher and observation data about the relative emphases on behavior versus instruciton at Bradford should allow us to see if student behavior is an overtly felt problem or one perceived mainly by students.

Table 3 -6

Mean Rankings of Upper Elementary Students' Perceptions of Proportionate Time Spent on Learning, Behavior, Routines: Rank Ordered by Mean for Learning

	Learning			Behavior		Routines	
School	N	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Woodlake	167	2.59	0.59	2.02	0.76	1.37	0.60
Euclid	132	2.55	0.70	1.86	0.78	1.56	0.63
Vista	163	2.52	0.62	1.93	0.81	1.56	0.70
Dennison	14	2.50	0.65	1.86	0.77	1.64	0.84
Palisades	122	2.45	0.69	1.97	0.80	1.54	0.70
Newport	168	2.38	0.75	1.83	0.75	1.72	0.79
Fairfield	166	2.35	0.72	1.99	0.82	1.70	0.79
Manchester	111	2.34	0.76	1.97	0.77	1.66	0.80
Laurel	147	2.32	0.78	2.00	0.80	1.62	0.73
Rosemont	89	2.31	0.72	2.03	0.85	1.66	0.77
Atwater	74	2.26	0.78	2.08	0.87	1.65	0.71
Crestview*	90	2.26	0.76	2.25	0.77	1.49	0.67
Bradford*	168	2.14	0.78	2.13	0.84	1.65	0.74
Totals	1611	2.38	0.73	1.99	0.80	1.60	0.73

*Means for Learning and Behavior are almost the same.

Table 3 -7 contains rank orders of school means of junior high school students' perceptions of proportionate class time spent on the three categories. With two exceptions (Bradford and Palisades) the schools that rank highest in terms of the mean for time on learning are predominately white schools, while the schools that rank lowest are racially mixed or minority schools. Conversely, the order of school means for behavior shows the opposite trend: the racially mixed or minority schools have higher mean scores and the white schools have lower mean scores. I have to admit that these patterns match the public or media image of how schools differ by student racial composition. Of course, differences among means are not huge, so that what I am commenting upon are just trends. Other related data may not support these findings. Nevertheless, these data do fall into the above mentioned patterns.

Table 3-7

Rank Order of School Mean Rankings of Junior High School Students' Perceptions of Proportionate Time Spent on Learning, Behavior, Routines

Learning				Behavior			
School	$\bar{X}$	s.d.	N	School	$\bar{X}$	s.d.	N
Vista	2.72	.55	934	Manchester	2.08	.82	1008
Woodlake	2.66	.63	779	Fairfield	1.95	.81	679
Euclid	2.65	.58	366	Newport	1.88	.77	898
Atwater	2.58	.66	519	Laurel	1.84	.80	[illegible]
Palisades	2.58	.64	695	Rosemont	1.82	.81	[illegible]22
Crestview	2.55	.64	660	Palisades	1.81	.77	693
Newport	2.54	.66	899	Crestview	1.81	.80	660
Fairfield	2.46	.71	678	Bradford	1.80	.80	949
Bradford	2.45	.70	947	Woodlake	1.79	.73	781
Laurel	2.45	.72	562	Atwater	1.77	.76	522
Rosemont	2.39	.73	823	Euclid	1.75	.79	366
Manchester	2.32	.74	1003	Vista	1.72	.70	936
Total	2.52	.68	8865	Total	1.84	.79	8882

Routines

School	$\bar{X}$	s.d.	N
Rosemont	1.73	.76	815
Laurel	1.70	.73	563
Bradford	1.66	.74	946
Atwater	1.62	.67	523
Euclid	1.61	.63	368
Crestview	1.60	.69	661
Palisades	1.60	.69	694
Manchester	1.58	.72	1007
Newport	1.57	.71	899
Vista	1.54	.64	938
Woodlake	1.53	.63	782
Fairfield	1.52	.70	680
Total	1.60	.70	8876

A glance at Table 3 -8--the counterpart of the previous table for senior high school students--reveals a pattern similiar to what was observed for junior high schools. The four schools that have the lowest means for learning are racially mixed or minority schools, while four of the five schools with the highest means are predominately white. Conversely, the four schools at the top of the rank order for behavior are mixed or minority.

Summary. Students' report of the relative emphasis in their classrooms on instruction/learning, behavior, and routines suggests that time on instruction increases with level of schooling. The increase in percentage of students who selected this category as taking the most class time is fairly substantial; the percentages range from 44.6 percent for early elementary students to 72.8 percent for senior high students. Still, though, more students at each level of schooling selected instruction as taking the most time than selected either of the other two categories. Time on behavior was selected by the next largest group of students at each level. It is important to note that over one-third of the early elementary students and just under one-third of the upper elementary students reported that behavior accounted for the most time.

The impression that emerges in my mind is of a changing classroom ambience focused on teaching and learning but affected by the developmental status of students. If data about time from teachers and observers support students' perceptions that instruction is the most time consuming activity and that time on behavior problems decreases as students grow older, I would suggest that as far as use of time is concerned, life in classrooms today is not drastically different from what it was like years ago.

Table 3-8

Rank Order of School Mean Rankings of Senior High School Students' Perceptions of Proportionate Time Spent on Learning, Behavior, Routines

Learning				Behavior			
School	$\bar{X}$	s.d.	N	School	$\bar{X}$	s.d.	N
Woodlake	2.81	.47	902	Laurel	1.87	.80	511
Euclid	2.80	.46	639	Fairfield	1.84	.77	1056
Atwater	2.76	.55	540	Palisades	1.79	.77	1052
Vista	2.73	.53	1059	Manchester	1.78	.79	1048
Newport	2.73	.55	1049	Bradford	1.64	.71	986
Dennison	2.66	.60	181	Dennison	1.62	.76	182
Bradford	2.65	.62	985	Crestview	1.59	.74	916
Rosemont	2.65	.61	943	Vista	1.57	.70	1062
Crestview	2.63	.62	910	Newport	1.52	.65	1047
Laurel	2.57	.64	510	Rosemont	1.51	.69	942
Palisades	2.55	.65	1045	Euclid	1.46	.65	638
Manchester	2.55	.67	1046	Atwater	1.39	.62	540
Fairfield	2.52	.71	1055	Woodlake	1.28	.54	904
Total	2.66	.61	10864	Total	1.61	.73	10884

Routines

School	$\bar{X}$	s.d.	N
Rosemont	1.82	.68	943
Woodlake	1.79	.56	905
Atwater	1.77	.63	537
Crestview	1.73	.68	913
Vista	1.69	.64	1059
Newport	1.67	.68	1044
Euclid	1.66	.60	641
Palisades	1.64	.71	1052
Dennison	1.62	.61	182
Fairfield	1.60	.68	1054
Bradford	1.59	.66	982
Laurel	1.55	.65	512
Manchester	1.55	.69	1048
Total	1.67	.66	10872

When secondary students' responses are examined by subject area, the academic versus non-academic split emerges again. The mean rankings of time on instruction are greater generally in academic classes, except for senior vocational education. While the differences among means are not huge, this distinction between the two groups of classes is occurring often enough to warrant noting it whenever it emerges. Another interesting finding, which has been repeated elsewhere, is that foreign language classes are different from other academic classes. Here, the mean rankings for time on instruction in these classes are quite a bit higher than for other academic classes at both secondary levels. My developing picture of foreign language classes is of a very task oriented, productive, and satisfying environment.

In terms of these data as related to curricular track placement, we find some significant relationships. At both secondary levels, as track level increases, more students rated instruction as taking more time. Conversely, as track level decreased, more students rated behavior as taking more time. While these relationships are significant, their magnitudes are not huge, so that once again, we should temper any generalizations based upon only a few variables.

I have noticed what I consider to be a somewhat disturbing pattern when these time variables are examined by school. At both the junior and senior high level, the rank order of school means for time on instruction and behavior tend to support the common stereotyped image of how schools differ by student racial composition; that is that less time is spent on instruction and more time is devoted to behavior in racially mixed or minority schools. But, this pattern is based on distributions of means which are quite close together. I, therefore, suggest that these patterns be treated very lightly unless other data support them.

Teachers

By level. On the average, teachers at each level of schooling reported that around 70 percent of class time is devoted to instruction. The mean percentage of time spent on behavior decreased from 15 percent for elementary teachers to 13 percent for junior high teachers to 9 percent for senior high teachers. Routines were reported to account, on the average, for about 13 percent of class time across all three levels of schooling. Generally, then, we see few differences across the levels except for a decrease in the average percentage of class time devoted to behavior at the senior high schools. Overall, by far the most class time, on the average, was reported to be taken up with instruction, while both routines and behavior were reported to account for much less time. (See Table 3 -9).

Table 3 -9

Mean Percentage of Class Time Spent on Each Category as Reported by Teachers*

	Elementary			Junior High			Senior High		
	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N
Instruction	69.7%	1.88	259	69.5%	1.01	410	73.2%	2.13	696
Behavior	14.7%	1.23	264	12.9%	1.29	407	8.7%	1.21	678
Routines	13.0%	0.79	260	13.5%	2.00	411	13.7%	0.98	693

*Percentages do not add up to 100 percent because teachers were asked to account for only class time which corresponded with the three categories.

By subject. First, we see that teachers in all subjects rated instruction as consuming a far greater proportion of class time than either routines or behavior--from 60 percent to 80 percent. (See Table 3 -10). If we rank order the percentage of time reported for instruction by subject for each level of schooling, we do not see strong clusterings of data into academic and non-academic subjects groups (Table 3 -11). Junior high teachers in the academic subjects, and arts and vocational education, reported a greater percentage of time spent on instruction than did teachers in physical education subjects. At the senior high level, physical education and arts teachers reported the lowest percentage of time on instruction.

Table 3-10

Secondary School Teachers' Mean Ratings of the Percentage of Class Time Spent in Three Categories by Subject*

		Routines			Instruction			Behavior		
		$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N
English	Mids	2.14	0.52	85	8.56	1.46	86	2.20	1.03	83
	Highs	2.44	0.89	131	8.32	1.81	131	2.02	1.37	128
Math	Mids	2.38	1.27	70	7.86	1.87	69	2.46	1.45	70
	Highs	2.31	1.19	88	8.08	2.29	90	2.14	1.46	90
Social	Mids	2.22	0.50	51	7.92	2.18	51	2.24	1.62	50
Studies	Highs	2.30	0.88	93	8.88	1.33	93	1.76	0.87	88
Arts	Mids	2.39	0.75	46	7.80	1.94	46	2.22	0.92	46
	Highs	2.70	1.20	60	7.43	2.91	60	1.69	1.05	58
Foreign	Mids	2.00	0.60	12	9.00	1.21	12	2.00	0.85	12
Language	Highs	2.22	0.71	32	8.52	2.14	33	1.48	0.68	31
P.E.	Mids	2.67	1.04	36	7.06	2.40	35	2.00	0.91	35
	Highs	2.50	1.11	56	7.86	2.48	56	1.87	1.32	53
Voc. Ed.	Mids	2.42	0.92	48	7.73	2.28	49	2.23	1.32	47
	Highs	2.26	0.86	142	8.59	2.12	142	1.68	1.07	142

* Response choices were coded as follows

0% = 1	40% = 5	80% = 9
10% = 2	50% = 6	90% = 10
20% = 3	60% = 7	100% = 11
30% = 4	70% = 8	

Table 3 -11

Rank Order of Teachers' Mean Percentages of Class Time Spent on Instruction*

Junior High			Senior High		
Subject	% Mean	N	Subject	% Mean	N
Foreign Lang.	80.0	12	Soc. Studies	78.8	93
English	75.6	86	Vocational Ed.	75.9	142
Soc. Studies	69.2	51	Foreign Lang.	75.2	33
Math	68.6	69	Science	73.3	81
Arts	68.0	46	English	73.2	131
Science	67.8	45	Math	70.8	90
Vocational Ed.	67.3	49	Physical Ed.	68.6	56
Physical Ed.	60.6	35	Arts	64.3	60

Another similarity between student and teacher perceptions regarding the use of time is seen when teachers' average report of percent of time devoted to each of the three categories are rank ordered within each subject by level. For all subjects in senior high schools, instruction was reported as taking more time than routines, and routines were seen as taking more time than behavior. At the junior high school level, teacher data presents a more mixed pattern than does student data. Responses of English, Math and Social Studies teachers parallel students'

*Mean percentages were computed by translating the means listed in Table 3-10 to the corresponding response choices. For example, the mean of junior high/middle school English teachers' report of percentage of time spent on instruction is 8.56. Since the response choice of 70 percent received a coded value of 8.0, we can say that a mean of 8.56 translates to a mean percentage of 75.6 percent.

responses in that behavior was perceived as taking more time than routines. But for Science, Arts, Physical Education and Vocational Education, routines were reported as accounting for more time than behavior. Considering the nature of these subjects, it is not surprising that this pattern emerged; setting up for a science experiment or an art project is likely to take longer than passing out paper for a math or English assignment.

By school. Tables 3 -12 through 3 -14 contain teachers' responses about class time aggregated at the individual school level. It was noted in the previous discussion that mean student rankings for time on behavior were highest at Bradford and Crestview Elementary Schools. A glance at Table 3 -12 shows that teachers' responses followed the same pattern.

But, the secondary schools in these two triples do not stand out from the other schools as spending the most time on behavior when student or teacher responses are examined. Instead, Bradford and Crestview schools cluster with the racially mixed or minority schools regarding teacher report of time devoted to behavior problems. It is also interesting to note that there is more variation among teachers at these schools regarding time on behavior. The reader should be reminded, though, that even at these schools, relatively small amounts of time are supposedly spent on behavior. Again, differences among schools are not great.

Table 3-12

Rank Order of School Means for Percentage of Class Time Spent on Instruction, Behavior, and Routines as Reported by Elementary Teachers*

Instruction				Behavior			
Schools	$\bar{X}$	s.d.	N	Schools	$\bar{X}$	s.d.	N
Palisades	9.07	1.35	15	Bradford	3.63	1.77	19
Euclid	9.00	1.15	16	Crestview	2.93	1.44	27
Atwater	8.92	.95	13	Rosemont	2.72	1.36	29
Woodlake	8.68	1.64	22	Fairfield	2.59	1.02	29
Newport	8.39	1.31	23	Newport	2.48	1.05	25
Vista	8.24	1.33	29	Manchester	2.43	.76	14
Manchester	7.92	1.50	13	Atwater	2.29	1.07	14
Fairfield	7.68	1.68	28	Vista	2.27	1.41	30
Crestview	7.64	1.85	28	Laurel	2.25	1.07	20
Dennison	7.50	2.52	4	Woodlake	2.00	.52	23
Rosemont	7.31	2.27	29	Palisades	2.00	.78	14
Laurel	7.16	2.79	19	Dennison	2.00	1.00	3
Bradford	6.80	2.21	20	Euclid	1.71	.59	17
Total	7.97	1.88	259	Total	2.47	1.23	264

Routines			
Schools	$\bar{X}$	s.d.	N
Fairfield	2.73	.91	30
Manchester	2.67	.78	12
Laurel	2.60	1.27	20
Bradford	2.45	1.32	20
Rosemont	2.39	.88	28
Dennison	2.33	.58	3
Vista	2.28	.65	29
Euclid	2.25	.58	16
Crestview	2.15	.36	27
Newport	2.13	.34	24
Woodlake	2.00	.31	22
Atwater	1.93	.27	14
Palisades	1.87	.52	15
Total	2.30	.79	260

*Response choices were coded as follows:

0%-1	40%-5	80%-9
10%-2	50%-6	90%-10
20%-3	60%-7	100%-11
30%-4	70%-8	

Table 3-13

Rank Order of School Means for Percentage of Class Time Spent on Instruction, Behavior, and Routines as Reported by Junior High Teachers

Instruction				Behavior			
Schools	$\bar{X}$	s.d.	N	Schools	$\bar{X}$	s.d.	N
Vista	8.70	1.52	46	Rosemont	2.78	1.35	41
Laurel	8.54	1.45	26	Manchester	2.73	1.51	26
Bradford	8.30	2.07	33	Crestview	2.55	1.59	29
Woodlake	8.25	2.06	32	Newport	2.53	1.34	57
Palisades	8.09	2.45	44	Fairfield	2.51	1.17	35
Newport	7.91	2.02	57	Bradford	2.31	1.97	32
Atwater	7.89	2.13	28	Laurel	2.13	.90	24
Fairfield	7.68	1.79	34	Atwater	2.07	.94	28
Manchester	7.59	1.72	27	Woodlake	2.03	.98	31
Crestview	7.48	2.18	29	Euclid	2.00	.82	16
Euclid	7.38	2.16	16	Palisades	1.98	1.09	44
Rosemont	7.15	1.90	39	Vista	1.77	.80	44
Total	7.95	2.00	411	Total	2.29	1.29	407

Routines

Schools	$\bar{X}$	s.d	N
Manchester	2.92	1.29	25
Laurel	2.62	1.83	26
Rosemont	2.53	1.59	40
Newport	2.36	1.00	56
Bradford	2.33	.74	33
Crestview	2.33	.66	30
Euclid	2.31	.48	16
Vista	2.28	.81	46
Fairfield	2.24	.56	33
Atwater	2.21	.56	29
Woodlake	2.16	.68	32
Palisades	2.14	.77	44
Total	2.35	1.01	410

Table 3-14

Rank Order of School Means for Percentage of Class Time Spent on Instruction, Behavior, and Routines as Reported by Senior High Teachers

Instruction				Behavior			
Schools	$\bar{X}$	s.d.	N	Schools	X	s.d.	N
Dennison	9.31	.70	16	Manchester	2.46	1.78	61
Woodlake	8.98	1.86	52	Laurel	2.39	.99	23
Vista	8.90	1.46	83	Palisades	2.15	1.69	55
Newport	8.58	2.00	70	Fairfield	2.00	1.40	41
Crestview	8.54	1.75	48	Rosemont	1.98	1.29	109
Palisades	8.40	2.09	60	Bradford	1.87	1.12	45
Atwater	8.34	2.10	32	Crestview	1.85	1.16	47
Euclid	8.20	2.53	41	Vista	1.71	.89	83
Bradford	8.08	2.42	48	Newport	1.68	.92	77
Fairfield	7.98	2.58	42	Euclid	1.65	.95	40
Manchester	7.91	2.31	64	Atwater	1.63	.67	30
Rosemont	7.80	2.29	109	Dennison	1.38	.50	16
Laurel	7.52	2.25	23	Woodlake	1.31	.51	51
Total	8.32	2.13	696	Total	1.87	1.21	678

Routines

Schools	X	s.d.	N
Laurel	2.74	1.81	23
Palisades	2.57	1.20	58
Rosemont	2.56	1.20	111
Bradford	2.40	.94	48
Newport	2.39	1.02	77
Manchester	2.35	.93	62
Crestview	2.33	.81	48
Vista	2.33	.90	83
Fairfield	2.26	.70	42
Dennison	2.25	.58	16
Atwater	2.16	.52	31
Woodlake	2.13	.56	52
Euclid	2.07	.56	42
Total	2.34	.98	693

Summary. Across all levels of schooling teachers, on the average, reported that instruction takes the most class time—about 70 percent. Mean percentage of time on routines are almost identical fom level to level. Time on behavior, though, shows a slight decrease as level of schooling increases, a trend which is consistent with student data. But, still, relatively small percentages of time were reported by teachers as being spent on behavior at any level.

Aggregation of the secondary school teacher data by subject area does not reveal strong clusterings into academic versus non-academic classes. It is interesting to no[illegible] though, that while routines were seen as taking more time than behavior across all senior high subjects, this pattern was not as consistent at the junior high level. Here, behavior was reported as taking more time in English, Math, and Social Studies, and less time than routines in Science, Arts, Physical Education, and Vocational Education.

When looking at teacher responses by school, we see that teachers at Bradford and Crestview Elementary Schools reported the greatest percent of time devoted to dealing with behavior problems. This parallels the student responses. And at the secondary level, these two triples cluster with the racially mixed and minority schools in that teachers at these schools reported spending more time on behavior than did other teachers.

Observation - Five Minute Interaction

All Five Minute Interaction frames (FMI) were coded so as to place the context of the interaction into one of the following categories: instruction, routines, behavior or socialization.

The reader should be reminded that since the focus of the FMI is the teacher, the findings reported below represent summaries of teacher behavior only. They do not describe the class as a whole nor students who were not interacting with the teacher when the FMI's were recorded.

By level. The percentage of frames in each of the four categories reported by level of schooling was computed by averaging school means. A slightly higher percentage of the FMI frames were coded as instruction for the secondary schools than the elementary schools (Table 3 -15).This supports the common sense notion that teaching younger children requires more attention to other than instructional matters. When we examine the percentages of frames designated as behavior,it is evident that attention to such problems decreases as level of schooling increases. There is no similar trend for routines or social activity. Generally, then, our elementary teachers were observed to devote a little less than 75 percent of their time to instruction and only about 5 percent to behavior problems. Even though these teachers devoted more of their attention to student behavior than did the other teachers, discipline did not occupy the majority of their class time.

Perhaps what is most striking about these data is the similarity across levels. It is clear that teachers were observed as spending almost three quarters of their class time on instructional matters. Maybe classroom life is still focused on teaching and learning, even though several critics would have us think otherwise.

Table 3 - 15

Average Percentages of FMI Frames Categorized According to Instruction, Behavior, Routines/Social*: Reported by Level of Schooling

	% Instruction	% Routines	% Behavior	% Social
Early Elementary	73.22	18.99	5.52	2.27
Upper Elementary	72.89	20.71	4.39	2.01
Junior High	77.42	18.02	2.88	1.68
Senior High	76.12	20.39	1.29	2.20

By subject. FMI percentages are categorized according to the four groups for each subject across junior high and senior high schools, but few patterns emerge (Table 3 -16). Foreign language classes at both levels have the highest percentages for instruction, while vocational education classes have the lowest at the junior high level and next to the lowest at the senior high level. Otherwise, there appears to be no clustering of academic and non-academic classes as occurred with the corresponding student data.

*Level percentages were computed on the basis of school means.

Table 3 - 16

Average Percentages of FMI Frames Categorized
According to Instruction, Behavior, Routines/Social
Rank Ordered by Percent of Instruction Within Secondary Levels*

	% Instruction	% Behavior	% Routines	% Social
Junior High				
Foreign Language	84.73	3.47	10.22	1.57
Arts	80.17	2.91	15.90	1.02
Mathematics	78.40	2.67	15.76	3.18
Social Studies	77.98	2.76	18.24	1.02
Physical Education	77.90	2.26	16.89	2.95
English	76.97	2.94	18.58	1.50
Science	75.75	4.78	18.39	1.07
Vocational Ed.	72.63	2.58	22.95	1.84
Senior High				
Foreign Language	83.05	0.89	13.82	2.24
Mathematics	79.29	1.89	16.70	2.12
Physical Education	78.23	0.86	18.67	2.24
Science	77.54	1.46	19.31	1.69
Social Studies	75.82	1.45	21.07	1.66
Arts	75.23	1.01	20.27	3.49
Vocational Ed.	74.14	1.09	22.90	1.86
English	73.56	1.46	22.79	2.19

*Percentages were computed on the basis of school means.

By school. Some interesting patterns emerge when school FMI percentages for instruction are rank ordered within each level and displayed by triple (Table 3 - 17). The Fairfield Elementary and Junior High Schools have the highest percentages of frames coded as instruction for their respective levels. But Fairfield Senior High School ranks near the bottom of schools at their level. In the Crestview triple, both early and upper elementary grades place in the top half of their rank orders while the two secondary schools rank at the bottom of their lists. One triple, Newport, has some of the lowest percentages of instructional frames; two others Euclid and Rosemont, generally have high percentages for instruction.

I could go on to describe a pattern or interesting difference about each of the triples. While this variable seems to yield some interesting observations by triple, the triples do not cluster according to any demographic characteristics. Furthermore, there is not a general split within triples according to level of schooling. So, until relations are explored between these FMI variables and others, it is difficult to suggest potential implications or explanations. Table 3 -18 contains percentages in each of the four categories for each school organized by level of schooling.

Table 3 -17

Rank Order Within Level of School of Percentages of FMI Frames for Instruction*

	Level			
School	Early	Upper	Junior	Senior
Vista	6.0	2.0	8.0	5.0
Crestview	4.5	5.0	12.0	12.5
Fairfield	1.5	1.0	1.0	10.5
Rosemont	3.0	3.0	6.0	4.0
Newport	11.0	11.0	10.0	12.5
Woodlake	8.0	6.0	11.0	7.5
Atwater	1.5	8.5	5.0	9.0
Palisades	10.0	8.5	7.0	10.5
Laurel	12.0	12.0	9.0	6.0
Manchester	9.0	10.0	3.5	1.0
Bradford	7.0	7.0	2.0	7.5
Euclid	4.5	4.0	3.5	2.5
Dennison	-	-	-	2.5

*Schools were ranked so that the school with the highest percentage of FMI frames for instruction was assigned the number 1, the second highest was given the number 2, etc.

Table 3-18

School Percentages of FMI by Context:
Rank Ordered Within Level by Percent of Instruction Frames

	N Classes	% I	% R	% B	% S
Early Elementary					
Fairfield	6	79.44	14.24	4.93	1.40
Atwater	5	78.71	17.59	2.98	0.73
Rosemont	6	78.18	14.98	5.15	1.69
Crestview	6	76.97	14.16	5.16	3.71
Euclid	6	76.88	18.90	2.14	2.08
Vista	6	74.91	17.31	5.29	2.48
Bradford	6	73.91	15.37	8.42	2.30
Woodlake	6	72.00	22.90	4.35	0.74
Manchester	4	71.28	16.82	9.01	2.89
Palisades	6	67.04	22.64	7.68	2.64
Newport	6	66.06	20.69	7.78	5.46
Laurel	6	63.29	32.33	3.30	1.08
Upper Elementary					
Fairfield	6	83.92	13.15	2.09	0.83
Vista	6	80.92	11.87	5.37	1.84
Rosemont	4	78.69	17.62	3.01	0.67
Euclid	6	74.29	24.31	0.75	0.65
Crestview	4	73.53	19.19	4.28	3.00
Woodlake	6	73.25	23.06	2.72	0.97
Bradford	6	72.31	15.33	7.39	4.96
Palisades	4	71.27	19.98	6.75	2.00
Atwater	3	71.16	24.16	3.90	0.77
Manchester	3	66.01	26.35	6.31	1.33
Newport	6	64.89	24.84	5.29	4.97
Laurel	6	64.42	28.68	4.80	2.09

TABLE 3-18 (continued)

	N Classes	% I	% R	% B	% S
Junior High					
Fairfield	30	86.81	9.33	2.93	0.92
Bradford	34	86.09	10.62	1.78	1.51
Euclid	16	80.90	13.20	1.44	4.46
Manchester	30	80.75	12.71	5.69	0.85
Atwater	27	80.34	15.70	3.09	0.87
Rosemont	36	77.84	18.92	2.16	1.07
Palisades	36	76.04	20.13	3.01	0.81
Vista	36	73.66	23.53	1.54	1.28
Laurel	24	73.46	23.56	1.51	1.47
Newport	36	72.14	19.30	4.64	3.92
Woodlake	30	72.02	24.08	3.06	0.83
Crestview	27	68.93	25.19	3.78	2.10
Senior High					
Manchester	47	83.94	13.04	2.13	0.89
Euclid	40	82.50	15.46	0.60	1.44
Dennison	19	81.75	16.76	0.28	1.20
Rosemont	48	79.84	16.48	1.25	2.42
Vista	48	78.10	18.38	1.22	2.29
Laurel	24	77.50	19.89	1.13	1.48
Woodlake	36	75.70	22.44	0.63	1.23
Bradford	48	75.47	20.09	0.87	3.57
Atwater	27	74.31	22.89	0.64	2.16
Fairfield	46	73.99	20.67	2.81	2.52
Palisades	48	70.24	24.38	2.65	2.73
Newport	46	68.44	27.30	1.34	2.92
Crestview	48	67.79	27.23	1.25	3.73

Observation - Snapshot

Sixteen mutually exclusive, and two overlapping, activities were used as a basis for coding teacher and student behavior during each Snapshot. (See Figure 3 -1). While the FMI focused only on the teacher, the Snapshot provided an opportunity to describe what everyone in the classroom was doing. Snapshots were recorded four times an hour, but the data discussed below represent averages across all Snapshots for each class. In turn, these class mean Snapshots were averaged to yield overall or subject school means which were further averaged to provide level means.

Table 3 -20 contains mean percentages of various combinations of overall class activities, teacher activities, and student activities for secondary schools. Several statements need to be made in order to explicate the meaning of these data. First, while we cannot really talk about the amount of time that classes, teachers, or students spent on various activities, these data do give us a feeling for the relative emphasis on different activities. As such, we can begin to develop an image of how various types of tasks are probably distributed over time. Second, the reader should consult Table 3 -19 which details how the activities were combined to: (1) form the categories for instruction, routines, behavior and social; (2) describe the overall classroom; (3) describe the teacher's activities; and (4) describe the student's activities. In addition there are two overlapping measures: student non-task behavior and percentage of the class at high interest level. Third, it is necessary to explain how to interpret the various percentages. When we talk about overall class activities, we are describing the frequency of occurrence of observed activities

LIST OF ACTIVITIES

Preparation for Assignments or Instructions/Cleanup

Explain, Lecture, or Read Aloud

Demonstration

Discussion

Simulation, Role Playing

Reading

Work on Written Assignments

Practice or Perform (psycho-motor, physical)

Practice or Perform (verbal)

Taking Test or Quiz

Audio Visual Equipment

Student Non-Task Behavior or Teacher Social Interaction with Student(s) - No Assignment

Adult Discipling Students

Adult Monitoring and/or Observing Students

Adult Custodial, Routines

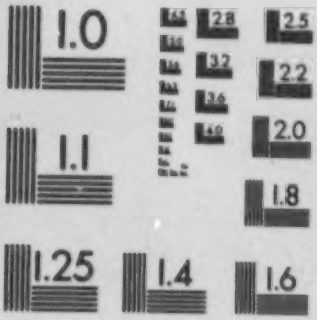
Adult Not Involved or Out of Classroom

Student Non-Task Behavior During Subject

Percentage of Class at High Interest Level

Figure 3 - 1

MJ



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS
STANDARD REFERENCE MATERIAL 1010a
(ANSI and ISO TEST CHART No. 2)

irrespective of who directed and participated in them. This measure simply tells us what percentage each activity, or category of activities, is of the total number of observed activities. Teacher percentages describe the proportion of each activity recorded for teachers relative to all observed teacher activities. Finally, student percentages refer to the probability that any student would have been observed participating in any of the activities.

By level. Examination of Table 3 -20 shows that about three-fourths of observed activities, overall, and for teachers at both secondary levels, involved instruction. Likewise, there is about an 80 percent likelihood that any student was observed involved in an instructional activity. These findings reveal no apparent differences between junior and senior high school classes regarding the relative emphasis on instructional activities. The findings regarding routines, behavior, student non-task behavior, and students' interest level are also similar for the two levels of schooling. Generally, very little student non-task behavior was observed during subject-based activities. Conversely, the percentage of students observed to be at a high interest level was substantial, about 60 percent.

Slight differences between the two levels emerge when we look at the data for social activities. There was a higher percentage of overall and teacher social activity, as well as a greater likelihood of student involvement in this area at the high school level. Otherwise, I am impressed with the similarity of these findings for both of the secondary levels. It will be interesting to compare the data for the elementary schools.

Table 3 - 19

Categories of Snapshot Activities

Category	Overall	Teachers	Students
Instruction	#2 - 11, 14	#2-10, 14	#2 - 11
Routines	#1, 15, 16	#1, 15, 16	#1
Behavior	#13	#13	#13
Social	#12	#12	#12
Student Non-Task Behavior			#17
Percentage of Class at High Interest Level			#18

Table 3-20

Percentages of Snapshot Activities Overall
and For Teachers, and Probability of Student Participation:
Senior High and Junior High Level

	Senior High	Junior High
Instruction		
Overall	74.8%	75.7%
Teachers	71.1	71.8
Students	79.7	77.0
Behavior		
Overall	0.1	0.3
Teachers	0.3	0.6
Students	0.1	0.2
Routines		
Overall	16.9	18.8
Teachers	25.7	25.9
Students	12.8	15.9
Social		
Overall		
Teachers	2.3	1.2
Students	6.9	3.6
Student Non-Task	2.0	3.1
Student at High Interest*	3.32	3.50

*This variable was measured on a four point scale:

1 = 0-24%
2 = 25-49%
3 = 50-74%
4 = 75-100%

By Subject. Included in Table 3 -21 are the same snapshot variables described above, but reported here by subject area across senior high schools. Generally, I feel that there are not vast differences in these data from subject to subject. There are only a few exceptions worth noting. First, there was a greater probability that students in physical education courses were involved in social activities. This finding appears quite plausible to me considering the typical structure of these classes which is less confining and provides more opportunity for student interaction.

Second, there is a slight trend for the mean rating of the percentage of students observed to be at a high interest level to be higher in the non-academic and foreign language classes than in the other classes. Generally, though, I am more impressed with the similarity of the data across subjects than with any jarring differences.

Table 3-21

Percentage of Snapshot Activities: By Subject for Senior High Level

English-Reading			Mathematics		
Instruction			Instruction		
2-11, 14	Overall	73.0	2-11, 14	Overall	72.2
2-11, 14	Teacher	68.1	2-11, 14	Teacher	70.3
2-11	Students	78.7	2-11	Students	80.7
Behavior			Behavior		
13	Overall	0.1	13	Overall	0.1
13	Teacher	0.2	13	Teacher	0.1
13	Student	0.0	13	Student	0.0
Routines			Routines		
1, 15-6	Overall	19.6	1, 15-16	Overall	17.8
1, 15-16	Teacher	28.4	1, 15-16	Teacher	26.3
1	Student	13.8	1	Student	11.5
Social			Social		
12	Overall	7.0	12	Overall	9.4
12	Teacher	2.9	12	Teacher	2.8
12	Student	7.2	12	Student	7.6
Student Non-Task		2.6	Student Non-Task		3.0
Interest Level		3.23	Interest Level		3.19

Social Studies			Science		
Instruction			Instruction		
2-11, 14	Overall	72.6	2-11, 14	Overall	76.3
2-11, 14	Teacher	66.7	2-11, 14	Teacher	72.3
2-11	Students	80.7	2-11	Students	78.2
Behavior			Behavior		
13	Overall	0.2	13	Overall	0.3
13	Teacher	0.2	13	Teacher	0.6
13	Student	0.2	13	Student	0.1
Routines			Routines		
1, 15-16	Overall	20.3	1, 15-16	Overall	16.8
1, 15-16	Teacher	30.1	1, 15-16	Teacher	24.7
1	Student	12.6	1	Student	15.6
Social			Social		
12	Overall	6.5	12	Overall	6.0
12	Teacher	2.5	12	Teacher	1.8
12	Student	6.2	12	Student	5.7
Student Non-Task		2.0	Student Non-Task		2.30
Interest Level		3.22	Interest Level		3.20

Table 3-21 Continued

Foreign Language			Arts		
Instruction			**Instruction**		
2-11, 14	Overall	76.2	2-11, 14	Overall	74.4
2-11, 14	Teacher	77.3	2-11, 14	Teacher	72.4
2-11	Students	81.7	2-11	Students	79.1
Behavior			**Behavior**		
13	Overall	none	13	Overall	0.2
13	Teacher	none	13	Teacher	0.3
13	Student	none	13	Student	0.0
Routines			**Routines**		
1, 15-16	Overall	14.3	1, 15-16	Overall	17.5
1, 15-16	Teacher	20.6	1, 15-16	Teacher	23.6
1	Student	8.2	1	Student	14.2
Social			**Social**		
12	Overall	9.1	12	Overall	7.4
12	Teacher	1.7	12	Teacher	3.3
12	Student	9.9	12	Student	6.3
Student Non-Task		1.5	**Student Non-Task**		1.4
Interest Level		3.47	**Interest Level**		3.48

Vocational Education			Physical Education		
Instruction			**Instruction**		
2-11, 14	Overall	77.9	2-11, 14	Overall	73.5
2-11, 14	Teacher	72.8	2-11, 14	Teacher	70.2
2-11	Students	80.7	2-11	Students	73.2
Behavior			**Behavior**		
13	Overall	0.0	13	Overall	0.3
13	Teacher	0.2	13	Teacher	0.7
13	Student	0.2	13	Student	0.0
Routines			**Routines**		
1, 15-16	Overall	25.1	1, 15-16	Overall	14.3
1, 15-16	Teacher	14.4	1, 15-16	Teacher	26.7
1	Student	12.9	1	Student	15.4
Social			**Social**		
12	Overall	7.2	12	Overall	11.5
12	Teacher	1.5	12	Teacher	2.1
12	Student	5.8	12	Student	11.0
Student Non-Task		1.6	**Student Non-Task**		1.2
Interest Level		3.40	**Interest Level**		3.53

Summary

I am most impressed with the similarity of the observation data regarding the use of class time. Few differences emerge when the findings are aggregated by level of schooling or by subject area across secondary schools. There is more variation when school mean percentages are examined; one would expect even more variance for class percentages. But, in terms of the data discussed thus far, large differences did not emerge.

Generally, it seems that instructional activities were observed to account for the majority of teacher, student and overall class time.* Behavior and social activity accounted for relatively small percentages of total observed activity. While these data do not address the issue of the quality of that instruction, we can say that in the classrooms in our study, on the average, students and teachers were observed to be involved mainly in instructional activities. We did not apparently observe the lack of attention to teaching and learning that we hear so much about in the media. Perhaps, we sampled unique schools, maybe teachers and students were on their best behavior while our observers were in their classrooms, or it could be that the media have exaggerated the condition of classroom life.

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* Again, I remind the reader that I am using the term "class time" loosely. We did not measure the actual number of minutes and hours that teachers and students spent engaged in particular tasks. Instead, we counted the frequency of occurrence of various activities. So, what we can talk about, then, is closer to something like inferred use of class time.

Overall Summary of Use of Class Time

Now that I have presented and summarized some of our data about the use of class time, I will try to discuss the meaning of these findings, point out other related variables not mentioned here, and suggest some additional analyses.

I feel fairly comfortable in saying that instructional activities comprised the main part of life in our sampled classrooms in terms of the reported and observed use of finite periods of time. In other words, on the average, observers recorded more occurrences of instructional activities than of any other type of activity, teachers reported that instructional activities accounted for the largest percentage of class time, and students responded that learning took the most time. Now, I do not mean to suggest that these data show that instruction/learning is the most meaningful aspect of school life for students. In fact, students' responses to the item which asked them to select what they liked best from a list of various components of school life indicate that instruction-related items received the lowest percentage of responses. In light of recent concern over the so called decline of our schools, though, I think it is important to make the point that instruction was certainly taking place.

Once we get beyond this first, general statement, we see some interesting patterns and variations among the data. First, findings from all three sources - teachers, students, and observers - suggest that time on or attention to student behavior problems decreases slightly as level of schooling increases. This pattern does not surprise me, for I intuitively feel that younger children require more attention in order to acquire and exhibit expected school behaviors. As children progress through the grades they probably adapt or drop out of school. Therefore, teachers of older students actually spend less time on behavior

problems. Of course, it may be more difficult to handle problems with older students, but nevertheless, the percentage of reported and observed time devoted to behavior was less for the higher levels of schooling.

The two points made so far about the emphasis on instruction and the decrease in time on student behavior suggest to me that we need to seriously consider current displeasure with schools and really examine what is occurring in classrooms. Of course this is a major purpose of the study, but these data remind me of it once again. I do realize, though, that our sample of schools does not represent the total population of American schools, and it is likely that students and teachers were well behaved during our data collection period. Still, if life in the classrooms of our 38 schools does not reflect the popular negative image of what goes on in schools, wouldn't it be wise for others to examine their own schools before accepting this image?

A couple of the patterns that did emerge do reflect common notions about schooling. First, at both secondary levels more students rated instruction as taking more time in higher track than in lower track classes. Conversely, as track level decreased, more students rated behavior as taking more time. What we have, then, is a distinction among classes based on track level (and implicitly on some type of student characteristic) that conforms to teachers' common notion about why they want to teach "bright" or "fast" classes and don't want to teach "dull" or "slow" classes (National Education Association, 1968). Most teachers want to spend their time teaching, not disciplining. Now whether or not this "common notion" is a self-fullfilling prophecy is another question, but one which should not be ignored.

Another pattern that has occurred with other variables, but which is still very tentative because of the tight distributions, is a split among academic and non-academic classes. Mean rankings of student and teacher responses about time on instruction suggest that, generally, more time is devoted

to instruction in academic classes. While the differences among means are not large, this distinction between the two groups of classes is occurring often enough to warrant noting it whenever it emerges. It is curious, though, that this pattern did not show up with the observation data.

DECISION MAKING

Determining the extent to which decisions about classroom processes are made, or perceived to be made, by teachers and/or students contributes to our understanding of the teaching/learning environment by describing the degree of teacher control and student independence. Our purpose is not to advocate any particular model of classroom decision making, but to investigate patterns in our schools and to raise appropriate questions. Accordingly, we asked questions of students and teachers as well as observed the locus of classroom decision making on a variety of factors.

Students

General decision making items. Students were asked a variety of questions to determine the extent to which they help to make decisions about what they do and what they learn in their classes. (See Table 3.22.) At the secondary level approximately two-thirds of the students report that they do not help decide what they do in class; at the elementary level 55% of upper elementary and 56% of the early elementary students said they do not choose what they want to do in class.

Approximately three-fourths of the secondary students in the sample said they could not make decisions about what they learn in class; this percentage is even higher (84%) for upper elementary students.

There is some evidence that students participate in making classroom rules; approximately 30% of secondary students indicate this is being done in their classes. (This question was not asked of elementary students).

Despite the low frequency of perceived student decision-making at the secondary level, only slightly more than half of the students (53% of senior high students and 61% of junior high students) said they would like to make

more decisions about what goes on in class. A greater percentage of elementary students (70%) indicated that they would like to have more choice about what they do in class, and it was noted above that the percentage of students who report that they are now helping to make decisions is higher for elementary than secondary students. (Possible interpretations: 1) as students progress through the grades they become more compliant and accepting of the classroom process in which most of the decisions about content, materials, activities and rules of conduct are made by others, or 2) there is increasing awareness on the part of upper elementary teachers regarding the value of personal choice and the conscious effort to include students in the decision-making process in the classroom.)

Table 3.22

STUDENT DECISION-MAKING			% Agree	% Disagree	N
1. Students help decide what we do in this class.	(B74)	Highs	32.9	67.1	10,693
"	(B74)	Mids	34.8	65.1	8,174
"	(B34)	Upper Elem.	44.6	55.4	1,616
2. We can decide what we want to learn in this class.	(B40)	Highs	26.6	73.3	10,842
"	(B40)	Mids	23.5	76.5	8,498
We can choose what we want to learn in this class.	(B18)	Upper Elem.	15.7	84.3	1,613
3. Students help make the rules for this class.	(B35)	Highs	28.4	71.6	10,830
"	(B35)	Mids	29.5	70.5	8,496
4. I help decide what I do in this class.	(B97)	Highs	32.6	67.4	10,559
"	(B97)	Mids	32.7	67.2	7,989
5. I would like to be able to make more decisions about what goes on in this class.	(B59)	Highs	52.9	47.1	10,758
"	(B59)	Mids	61.2	38.9	8,301
I would like more chances to help choose what we do in this class.	(B25)	Upper Elem.	69.6	30.4	1,621
			Yes	Sometimes	No	N
6. I choose what I want to do in this class. (A30)	Early Elem.		18.1	26.0	55.8	1,789

When respondes to a few of these questions are looked at according to school scores, some differences emerge. At three schools, Vista, Crestview, and Palisades, students perceived that they were more limited in general classroom decision-making. And at Laurel students reported more classroom power.

Table 3.23

Early Elementary Students' Responses to Decision-Making Item

School	$\bar{X}$	sd	N
Laurel	1.83	.875	114
Dennison	1.79	.721	24
Newport	1.75	.821	146
Bradford	1.72	.898	177
Rosemont	1.71	.747	150
Fairfield	1.70	.774	171
Manchester	1.62	.771	164
Woodlake	1.60	.771	171
Euclid	1.58	.683	128
Atwater	1.56	.763	103
Palisades	1.51	.713	149
Crestview	1.47	.657	145
Vista	1.41	.582	147
Total	1.62	.773	1789

Examination of responses of upper elementary students to the three decision making items also reveals school differences. In only two schools, Fairfield and Dennison, did more than 50 percent of the students report that they help decide what they do in class (Table 3.24). These two schools are also among the four where at least 20 percent of the students responded that they can choose what they want to learn (Table 3.25). Dennison, our smallest school, which is right at the top of both rank orders, appears to be quite different from all other schools on this dimension. But of course its small number of students makes it difficult to draw any conclusions when comparing percentages of responses. In contrast, Euclid stands out as a school where very few students in these grades perceived that they help make decisions.

Table 3.24

B-34 Students help decide what we do in this class.

School	% Usually True	N
Dennison	64.3	14
Fairfield	53.8	169
Crestview	51.6	91
Newport	51.5	169
Laurel	50.7	148
Bradford	48.5	165
Atwater	45.3	75
Vista	44.2	163
Rosemont	42.7	89
Woodlake	41.3	167
Palisades	39.2	120
Manchester	33.0	115
Euclid	26.0	131
Level Totals:	44.6	1616

Table 3.25

B-18 We can choose what we want to learn in this class

School	Usually True	N
Dennison	71.4	14
Newport	30.2	169
Fairfield	25.1	167
Rosemont	21.3	89
Laurel	19.0	147
Bradford	18.6	167
Manchester	13.8	116
Palisades	13.2	121
Crestview	11.2	89
Woodlake	9.0	167
Atwater	6.8	73
Vista	4.3	162
Euclid	3.0	132

Not surprisingly, there is a slight negative relationship between elementary school scores on the two student decision making variables just discussed and responses to the item displayed in Table 3.26

Table 3.26

B-25 I would like more chances to help choose what we do in this class.

School	% Usually true	N
Vista	77.3	163
Bradford	77.2	167
Palisades	73.7	118
Crestview	73.6	91
Laurel	73.2	149
Rosemont	72.2	90
Manchester	70.1	117
Fairfield	66.1	168
Atwater	65.8	76
Euclid	64.4	132
Newport	63.3	169
Woodlake	62.3	167
Dennison	42.9	14
Level Totals:	69.6	1621

Spearman Rho Coefficient between B25 and B18 is -0.26, and between B25 and B34 it is -0.13.

Secondary student decision making scale. Secondary students responded to four decision making items in addition to the four listed in Table 3.22. These eight items form a student decision making scale:

Student Decision-Making

32. We are free to talk in this class about anything we want.
35. Students help make the rules for this class.
37. We are free to work with anyone we want to in this class.
40. We can decide what we want to learn in this class.
74. Students help decide what we do in this class.
80. Different students can do different things in this class.
91. Sometimes I can study or do things I am interested in even if they are different from what other students are studying or doing.
97. I help decide what I do in this class.

Scales scores for junior high school students and senior high school students are very similar:

Level	$\bar{X}$	SD	N Classes
Junior High	2.22	0.30	367
Senior High	2.32	0.38	526

Differences among junior high schools are also very small, and the variance for each school suggests relatively small differences within schools as well. (See Table 3.27)

Table 3.27

Rank Order of Junior High School Means for Student Decision Making Scale

School	$\bar{X}$	SD	N Classes
Rosemont	2.30	0.25	36
Fairfield	2.28	0.28	30
Euclid	2.27	0.32	16
Newport	2.26	0.32	36
Palisades	2.25	0.33	35
Manchester	2.24	0.37	34
Atwater	2.20	0.33	35
Laurel	2.20	0.24	24
Vista	2.19	0.32	36
Crestview	2.13	0.24	27
Bradford	2.13	0.37	36
Woodlake	2.11	0.22	30

There is more of a range among senior high schools for this scale score which ANOVA shows to be significant at the 0.01 level (Table 3.28). As we observed for the elementary schools, Dennison is right up there at the top with the highest school mean on this scale. But, before we start generalizing about the positive effect of small school size on student perception of decision making, it is important to note that the next smallest schools, Euclid and Laurel, are at the middle and bottom of the rank order.

Table 3.28

Rank Order of Senior High School Means for Student Decision Making Scale

School	$\bar{X}$	SD	N Classes
Dennison	2.50	0.40	19
Atwater	2.45	0.48	27
Crestview	2.37	0.29	48
Bradford	2.36	0.39	48
Woodlake	2.35	0.37	36
Vista	2.35	0.39	48
Fairfield	2.34	0.39	46
Euclid	2.34	0.34	40
Palisades	2.32	0.36	48
Rosemont	2.30	0.32	48
Newport	2.27	0.41	46
Manchester	2.19	0.31	48
Laurel	2.08	0.40	24

Responses of secondary students to the decision making scale were also analyzed by subject area. And once again, when means are rank ordered at the junior high and senior high level, the academic and non-academic split emerges (Table 3.29). Students in vocational education, arts, and physical education courses reported more student decision making than did students in other classes.

Table 3.29

Rank Order of Means for Student Decision Making Scale by Subject

Junior High Schools

Subject	$\bar{X}$	SD	N Classes
Vocational Education	2.43	0.33	49
Physical Education	2.42	0.21	25
Arts	2.33	0.31	45
English	2.19	0.28	72
Science	2.18	0.33	42
Math	2.09	0.26	70
Foreign Language	2.03	0.24	11

Table 3.29 (Cont'd.)

Subject	Senior High Schools $\bar{X}$	SD	N Classes
Arts	2.58	0.37	65
Physical Education	2.56	0.26	33
Vocational Education	2.49	0.40	105
Foreign Language	2.29	0.40	27
Social Studies	2.23	0.27	76
English	2.21	0.37	83
Science	2.18	0.30	65
Math	2.09	0.23	72

Student choice of materials. Another question for students relates to decision making in that it concerns selection of books, materials, and equipment.

When asked how often they can choose books, materials and equipment which they use in class, 47% of the senior high students, 42% of the junior high students, and 40% of the elementary students in the sample reported that they never get to choose these materials. Student choice of materials varies depending on subject area. At all levels the highest frequency of "never" responses was found in Mathematics classes, with 75% of senior high students, 65% of junior high students and 49% of elementary students reporting that they never get to choose these materials in their classes. At the secondary level, the percentage of students who indicate that they never get to choose materials in Social Studies, Science, and Foreign Language classes ranges from 45% to 60%. Of the academic subjects somewhat more choice is reported by students in English classes. At all levels students are saying they are allowed more choice of materials in Arts classes, however, 25% of elementary, 32% of junior high and 28% of senior high students indicate that they never get to choose materials in Art classes.

At the secondary level students also perceive more choice of materials in Vocational Education and Physical Education classes than in the academic subjects. (Elementary students were not asked this question relative to Voc. Ed. and P.E. classes).

Table 3.30

STUDENT CHOICE OF MATERIALS

How often can you choose your own books, materials and equipment in this class? (Secondary)

How often can you choose your own (subject area) books and materials in this class? (Upper Elementary)

Response format: Never, Sometimes, Whenever I want to.

STUDENT CHOICE × LEVEL

	Highs			Mids			Elems		
	% Never	$\bar{X}$	N	% Never	$\bar{X}$	N	% Never	$\bar{X}$	N
English	38.8	1.74	1791	27.4	1.85	1640	36.7	1.71	1571
Mathematics	75.2	1.29	1586	65.4	1.39	1661	49.4	1.57	1532
Social Studies	53.1	1.53	1745	44.9	1.60	1410	46.9	1.59	1502
Science	57.5	1.48	1307	47.1	1.59	1053	41.3	1.65	1474
Arts	28.1	1.95	1471	31.5	1.80	1172	24.6	1.86	1538
Foreign Language	56.6	1.47	525	59.2	1.42	218	-	-	-
Voc./Career Education	34.8	1.86	1722	31.0	1.86	1021	-	-	-
Physical Education	32.3	1.87	764	33.7	1.74	747	-	-	-
Average (8 subjects)	47.0			42.5			39.8		
Average (excluding F.L., V.Ed., P.E.)	50.5			43.3			-		

Responses to this item were also examined by school. At the elementary level, because students responded to this item for each subject, school means were computed by averaging mean responses across subjects. The rank order of these school means appears in Table 3.31. Once again we see schools such as Dennison, Newport and Rosemont at the top and Euclid, Woodlake and Atwater at the bottom.

Table 3.31

Rank Order of School Means of Upper Elementary Student Perception of Student Choice in Selecting Materials*

School	Mean	N Subject Means
Rosemont	1.88	5
Newport	1.84	5
Dennison	1.76	5
Manchester	1.76	5
Laurel	1.72	5
Fairfield	1.71	5
Crestview	1.69	5
Palisades	1.68	5
Bradford	1.65	5
Vista	1.63	5
Atwater	1.60	5
Woodlake	1.55	5
Euclid	1.45	5

At the secondary level, there is more of a range among senior high school means than among junior high school means. (See Table 3.32) This trend was noted previously and may well turn out to be characteristic of the schools across many variables.

*Means are averages of school means across individuals for five subjects.

Table 3.32

Rank Order of School Means of Secondary Student Perception of Student Choice in Selecting Materials

Junior High Schools

School	$\bar{X}$	SD	N
Crestview	1.76	0.65	939
Euclid	1.76	0.58	368
Newport	1.74	0.66	913
Rosemont	1.73	0.58	838
Palisades	1.71	0.66	696
Atwater	1.69	0.62	520
Woodlake	1.69	0.64	783
Laurel	1.67	0.63	561
Vista	1.67	0.61	939
Fairfield	1.60	0.58	679
Manchester	1.56	0.63	1009
Bradford	1.55	0.63	953

Senior High Schools

School	$\bar{X}$	SD	N
Dennison	1.92	0.64	179
Newport	1.75	0.73	1058
Atwater	1.75	0.76	538
Crestview	1.73	0.67	916
Rosemont	1.71	0.66	952
Palisades	1.70	0.69	1054
Euclid	1.65	0.66	639
Woodlake	1.65	0.67	900
Bradford	1.61	0.69	989
Fairfield	1.61	0.63	1056
Vista	1.59	0.70	1060
Laurel	1.52	0.66	509
Manchester	1.51	0.67	1061

Summary. Several statements can be made about students' perceptions of their own decision making power regarding classroom processes. At an overall level, the majority of students reported no role in classroom decisions regarding what they did and learned. And between forty and forty-seven percent reported that they never choose their own materials and books. It is even more surprising that student perception of influence decreases as level of schooling increases. Furthermore, a greater percentage of elementary than secondary students expressed a desire for more decision making power.

One might ask if elementary students really do have more choices or if it is just easier to make them believe they do. Likewise, it is possible that students become more resigned to having no influence regarding schoolwork as they progress through school and become less desirous of being involved in selecting what they are to do.

There is also a noticeable trend toward differences in perceived student decision making according to subject area. Student selection of materials was greater in the so called non-academic courses--arts, vocational education, and physical education--than in the academic courses. This split is again evident in responses of secondary students to the decision making scale. More power is reported by students in the non-academic classes than in the academic classes. Could this difference help account for students' preference for arts, vocational and physical education courses? One also wonders about the extent to which student choice is related to the substantive nature of a given subject area. Perhaps, the existence of right and wrong answers in mathematics necessarily results in less student perceived decision making power. Likewise, the greater tolerance in arts classes (at the secondary

level, at least) for divergent responses might produce an increased sense of student influence. Whatever the cause of students' decision making scores, we must acknowledge this subject area split. It is one that continues to occur.

Another pattern which has popped up again is that junior high/ middle schools are strikingly similar. There is very little variance among the schools on these student variables. While senior high schools do vary more, there seems to be no discernable pattern to explain why students in any one school responded in a particular way. For the elementary schools, though, a trend did emerge.

If we average the ranks that each elementary school received on four of the student decision making items discussed so far (A30 for early elementary students and B18, B34, and choice of materials for upper elementary students) it is possible to talk about the relative position of each school regarding student decision making. (See Table 3.33) Except for Dennison, six of the seven predominately white schools place toward the bottom of the rank order (Euclid, Vista, Woodlake, Atwater, Crestview, Bradford). For some reason, it appears that elementary students in racially mixed or minority schools perceive that they have more influence over some classroom instructional processes.

Table 3.33

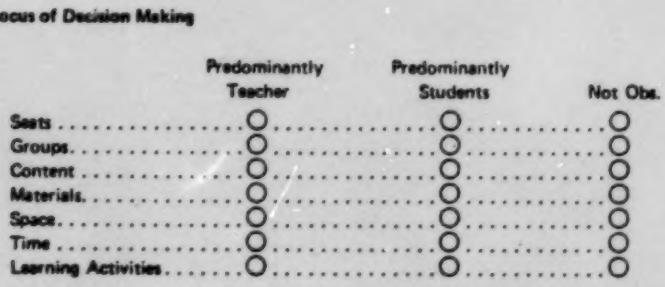
Average Elementary School Ranks on Four Student Decision Making Items*

School	Average Rank
Dennison	1.75
Newport	2.75
Laurel	4.00
Fairfield	4.25
Rosemont	4.75
Bradford	6.25
Manchester	7.50
Crestview	7.75
Palisades	9.50
Atwater	9.75
Woodlake	10.00
Vista	10.75
Euclid	12.00

*The list is ordered from most to least perceived student decision making.

Observation/Daily Summary: Locus of Decision Making

The observation booklets included a daily summary which, among other things, asked observers to rate the locus of classroom decision making on a variety of factors. For secondary classes, each daily summary was based upon one class period of observation. For elementary schools, each daily summary was based upon one day of observation. For both levels, there were three daily summaries for each class.



At present, daily summary data are only available for junior and senior high school classes. Therefore, the following discussion will refer to these levels only.

By level. In Table 3.34 are listed the percentages of daily summaries for which observers recorded junior high and senior high school teachers as controlling classroom decision making for each of the listed elements, as well as an overall percentage. While the previously discussed data about student perception of their decision making showed that student influence decreased as level of schooling increased, the daily summary data reveal the opposite pattern. The differnece between the overall percentage of teacher decision making control at the junior high and senior high school levels is not large. But, I think that it is large enough to note a trend which suggests that there is less teacher control at the senior high schools.

Table 3.34

Observed Locus of Classroom Decision Making: Junior and Senior High Schools

Junior High

Element	% Teacher	Mean % Not Observed
Seats	68.6	33.5
Groups	100.0	45.9
Content	97.5	7.1
Materials	93.0	16.3
Space	90.5	25.2
Time	96.9	9.3
Learning Activities	98.3	7.1
Overall	92.2	20.5

Senior High

Element	% Teacher	Mean % Not Observed
Seats	49.4	28.1
Groups	100.0	54.1
Content	95.2	12.7
Materials	87.4	28.3
Space	83.5	27.8
Time	93.0	14.9
Learning Activities	95.0	17.2
Overall	85.1	26.1

For every element, except grouping, teacher control of decision making decreased--though often by only a couple of percentage points--at the senior high level. The largest differences concern selection of seats and use of space, and the smallest differences concern selection of content, learning activities, and use of time. It's hard

not to recognize the relative importance of the latter group of elements and conclude that the observed increase in student decision making power across grade level is concentrated on little more than physical mobility. The critical components of schooling appear to be firmly under teacher control.

By subject. Once again we see the trend toward clustering of academic and non-academic subject areas. In Table 3.35 percentages of overall teacher decision making control for each subject are rank ordered within level of schooling. The differences between the two groups of subjects is greater for the senior high than the junior high schools, but the pattern is there, nonetheless.

Table 3.35

Rank Order of Percentage of Overall Teacher Decision Making By Subject Within Level

Junior High		Senior High	
Subject	% Teacher	Subject	% Teacher
Mathematics	94.7	Foreign Language	89.4
Foreign Language	94.2	English	89.0
Science	93.7	Science	89.0
Social Studies	93.5	Social Studies	88.3
Arts	92.8	Math	87.4
Physical Ed.	92.0	Physical Ed.	86.2
English	90.5	Vocational Ed.	79.0
Vocational Ed.	87.2	Arts	77.4

When Table 3.36 , which contains the complete list of percentages for all elements for all subjects, is examined we see that with few exceptions teacher control of the important elements is firm. These

exceptions reveal a little less teacher control: time and activities for senior high arts classes and content for senior high vocational education classes. Still, though, it is difficult to label even these classes as having democratic structures. The daily summary data yield pictures of classrooms as being heavily dominated by teachers.

Table 3.36

Percent of Teacher Decision Making
By Subject Within Level

Junior High

	English		Mathematics		Social Studies		Science		Arts		Foreign Language		Vocational Education		Physical Education	
	% tch	N. Ob. XX	% tch	N. Ob. XX	% tch	N. Ob. XX	% tch	N. Ob. XX	% tch	N. Ob. XX	% tch	N. Ob. XX	% tch	N. Ob. XX	% tch	N. Ob. XX
Seats	62.9	30.6	76.4	33.3	67.4	29.9	80.6	32.5	77.5	17.5	57.1	33.3	57.6	37.1	36.4	64.8
Groups	100.0	48.3	100.0	55.6	100.0	56.9	100.0	47.0	100.0	26.8	100.0	36.1	100.0	41.7	100.0	27.3
Content	98.6	9.4	98.5	10.8	98.1	4.9	97.6	6.2	95.3	4.6	100.0	5.6	93.6	6.0	100.0	10.6
Materials	91.2	18.5	100.0	19.8	94.1	18.2	92.1	19.2	87.8	10.0	100.0	26.4	87.5	8.5	95.5	24.1
Space	88.4	25.7	93.4	28.1	95.7	29.0	91.4	30.6	89.7	17.5	90.9	12.5	85.7	22.8	86.4	23.1
Time	97.2	12.6	97.0	11.3	100.0	10.2	97.6	9.7	100.0	8.1	100.0	5.6	87.2	6.9	100.0	6.9
Activities	97.2	11.2	97.0	9.1	100.0	8.4	97.6	5.8	100.0	4.6	100.0	5.6	97.9	4.7	100.0	6.9
Overall	90.5	22.3	94.7	24.0	93.5	22.4	93.7	21.6	92.8	12.5	94.2	17.9	87.2	17.9	92.0	23.1

Senior High

	English		Mathematics		Social Studies		Science		Arts		Foreign Language		Vocational Education		Physical Education	
	% tch	N. Ob. XX	% tch	N. Ob. XX	% tch	N. Ob. XX	% tch	N. Ob. XX	% tch	N. Ob. XX	% tch	N. Ob. XX	% tch	N. Ob. XX	% tch	N. Oo. XX
Seats	58.1	26.4	56.1	23.5	50.8	28.7	50.0	28.2	43.9	23.6	57.7	12.7	42.2	25.4	23.5	56.8
Groups	100.0	67.8	100.0	65.4	100.0	59.2	100.0	57.5	100.0	34.7	100.0	50.0	100.0	45.6	100.0	32.3
Content	96.2	12.7	98.6	11.5	97.3	12.5	100.0	14.4	93.2	14.1	100.0	10.0	86.6	12.3	96.7	10.4
Materials	92.3	35.2	93.0	35.6	92.4	27.8	90.9	32.2	77.6	16.2	100.0	35.4	78.5	22.4	85.2	29.1
Space	92.1	34.1	86.7	30.3	85.1	26.0	94.4	30.3	71.7	28.1	82.6	27.8	73.9	25.0	85.7	14.7
Time	94.7	16.4	90.0	13.6	95.8	14.5	96.5	21.9	82.8	16.6	96.0	13.4	94.7	11.5	93.3	9.2
Activities	97.3	17.4	97.0	20.8	98.6	15.7	98.3	19.2	85.7	19.0	96.2	8.6	90.5	14.8	100.0	16.5
Overall	89.0	30.0	87.4	28.5	88.3	26.2	89.0	29.1	77.4	21.7	39.4	32.5	79.0	22.4	86.2	24.2

By school. When the locus of decision making data are examined for secondary schools, we see some consistency across triples. In Table 3.37 the schools are rank ordered within level according to the percentage of observed overall teacher decision making. (Table 3.38 contains the complete locus of decision making data for all secondary schools.) Schools in five triples--Manchester, Rosemont, Atwater, Newport, and Palisades--occupy the same relative place in the two rank orders.

Table 3.37

Overall Percentage of Teacher Decision Making: Rank Order of Schools Within Level

Junior High			Senior High		
School	% Teacher	$\bar{X}$ % Not Observed	School	% Teacher	$\bar{X}$ % Not Observed
Manchester	98.0	31.6	Woodlake	95.0	11.2
Crestview	97.8	6.0	Manchester	90.8	20.5
Broadview	95.7	28.1	Vista	87.7	14.2
Rosemont	95.0	12.7	Broadview	87.5	20.0
Vista	94.4	6.5	Rosemont	85.9	6.7
Woodlake	93.0	15.1	Fairfield	85.3	2.3
Atwater	91.3	10.4	Atwater	85.1	10.9
Fairfield	90.7	15.4	Laurel	82.8	27.4
Euclid	89.8	71.8	Crestview	82.5	12.9
Newport	89.2	8.2	Newport	79.7	21.4
Palisades	85.2	21.4	Euclid	77.9	75.9
Laurel	84.4	19.0	Palisades	77.7	45.6
			Dennison	74.5	69.7

Table 3.38

Percentage of Teacher Decision Making:
Schools Within Level

Junior High

	Vista		Crestview		Fairfield		Rosemont		Newport	
	% tch	N. Ob. X%	% tch	N. Ob. X%	% tch	N. Ob. X%	% tch	N. Ob. X%	% tch	N. Ob. X%
Seats	76.5	15.7	85.2	1.9	61.5	21.7	82.9	19.0	61.8	11.3
Groups	100.0	21.3	100.0	18.5	100.0	30.0	100.0	31.0	100.0	22.0
Content	100.0	0.0	100.0	0.0	96.7	3.3	100.0	0.0	97.2	0.9
Materials	91.7	1.9	100.0	4.9	93.3	7.8	91.7	6.5	83.3	3.7
Space	94.4	8.3	100.0	16.0	89.7	21.7	94.3	20.8	100.0	21.8
Time	100.0	0.0	100.0	1.2	93.3	16.7	97.2	11.6	94.4	0.0
Activities	100.0	0.0	100.0	0.0	100.0	6.7	100.0	0.0	91.7	1.9
Overall	94.4	6.5	97.8	6.0	90.7	15.4	95.0	12.7	89.2	8.2

	Woodlake		Atwater		Palisades		Laurel		Manchester	
	% tch	N. Ob. X%	% tch	N. Ob. X%	% tch	N. Ob. X%	% tch	N. Ob. X%	% tch	N. Ob. X%
Seats	64.3	10.0	59.3	7.4	56.3	27.8	52.4	38.9	75.0	94.4
Groups	100.0	45.6	100.0	45.1	100.0	39.8	100.0	41.3	100.0	87.8
Content	100.0	0.0	100.0	0.0	88.9	14.8	100.0	1.4	100.0	0.0
Materials	100.0	26.7	100.0	11.1	87.9	21.3	95.5	18.1	92.6	15.6
Space	90.0	22.2	85.2	9.9	80.6	32.4	54.5	25.0	100.0	21.7
Time	100.0	1.1	100.0	0.0	91.7	10.2	95.8	4.2	100.0	0.0
Activities	100.0	1.1	100.0	0.0	94.4	3.7	95.8	4.2	100.0	1.7
Overall	93.0	15.1	91.3	10.4	85.2	21.4	84.4	19.0	98.0	31.6

	Bradford		Euclid	
	% tch	N. Ob. X%	% tch	N. Ob. X%
Seats	80.0	66.7	100.0	87.5
Groups	100.0	89.7	100.0	79.2
Content	94.1	0.0	90.0	64.6
Materials	96.9	12.3	77.8	65.6
Space	100.0	27.9	85.7	75.0
Time	97.1	0.0	88.9	66.7
Activities	100.0	2.0	100.0	63.5
Overall	95.7	28.1	89.8	71.8

Table 3.38 (cont'd)

Senior High

	Vista		Crestview		Fairfield		Rosemont		Newport	
	% tch	N. Ob. X%	% tch	N. Ob. X%	% tch	N. Ob. X%	% tch	N. Ob. X%	% tch	N. Ob. X%
Seats	66.7	8.3	50.0	2.4	46.7	1.4	47.8	7.6	48.8	8.0
Groups	100.0	55.6	100.0	47.2	100.0	11.6	100.0	19.1	100.0	67.8
Content	100.0	0.0	100.0	4.5	93.5	0.0	97.9	0.0	87.0	0.7
Materials	88.9	17.0	81.3	9.0	93.5	1.4	89.4	6.9	47.6	60.7
Space	79.5	16.7	73.8	22.2	82.6	0.0	81.8	11.1	88.9	5.8
Time	93.8	0.0	91.7	2.4	93.5	0.0	95.8	0.0	89.1	0.0
Activities	93.6	2.8	93.8	3.5	93.5	1.4	93.6	2.1	95.5	6.5
Overall	87.7	14.2	82.5	12.0	85.3	2.3	85.9	6.7	79.7	21.4

	Woodlake		Atwater		Palisades		Laurel		Manchester	
	% tch	N. Ob. X%	% tch	N. Ob. X%	% tch	N. Ob. X%	% tch	N. Ob. X%	% tch	N. Ob. X%
Seats	85.7	5.6	34.6	16.0	34.8	31.2	33.3	46.9	44.8	54.6
Groups	100.0	55.6	100.0	48.1	100.0	63.4	100.0	56.9	100.0	55.7
Content	100.0	0.0	92.6	1.2	93.0	24.3	100.0	2.8	97.9	0.7
Materials	100.0	15.3	92.6	11.1	80.0	55.0	95.0	29.9	89.1	12.1
Space	97.1	0.0	96.3	0.0	72.4	59.2	66.7	37.5	91.3	17.7
Time	91.4	0.0	92.6	0.0	87.5	38.4	91.3	12.5	100.0	1.4
Activities	94.3	2.8	96.3	0.0	100.0	47.7	95.8	5.6	100.0	2.1
Overall	95.0	11.2	85.1	10.9	77.7	45.6	82.8	27.4	90.8	20.5

	Bradford		Euclid		Dennison	
	% tch	N. Ob. X%	% tch	N. Ob. X%	% tch	N. Ob. X%
Seats	54.8	36.5	25.0	72.9	37.5	73.7
Groups	100.0	50.7	100.0	88.7	100.0	82.5
Content	93.8	4.5	92.3	60.0	70.0	65.8
Materials	95.7	13.2	84.2	72.1	70.0	64.0
Space	80.0	23.3	83.3	92.9	100.0	75.4
Time	93.6	2.8	88.9	69.2	100.0	66.7
Activities	97.9	10.4	89.5	75.8	70.0	62.3
Overall	87.5	20.0	77.9	75.9	74.5	69.7

Summary. Decision making in the secondary schools seems to be pretty well under the control of teachers, according to our admittedly limited observation data. Class percentages were not examined, but when the data are aggregated by level of schooling, by subject, or by school, the overwhelming impression one gets is of teachers deciding what, where, when, and how students will learn. When students were observed making decisions the elements they had control over were usually seating, space, or materials. Decisions about grouping, content, time, and learning activities appear to have been made predominantly by teachers.

Senior high school students were observed making decisions more often than were junior high school students. But, this increased influence generally concerned elements related to physical mobility only. When one examines the data for content and activities, the trend is still the same, but much less pronounced. Perhaps, then, while senior high students may actually have more input regarding some features of classroom life, they realize that they are still under teacher control regarding the more important aspects of what and how they learn. Furthermore, because they are older than junior high students, senior high students also have a desire and need for more autonomy. So even if the older students have about the same or a little more decision-making control, they perceive their power to be less than they think it should be.

Finally, we see once again, the clustering of subjects into basically academic and non-academic groups. This pattern is consistent with the student data about classroom decision-making. Perhaps we are beginning to delve into the question of why students perceived the arts, physical education, and vocational education classes as more interesting and enjoyable than their other courses.

Teachers

Teachers also responded to items about classroom decision-making processes. Like students, they were asked to report perceptions of their own influence over these processes.

It seems reasonable to assume that teachers were concerned with the extent to which administrators impinged upon their classroom autonomy. Because students and observers focused on teacher versus student decision-making influence, we cannot compare responses of teachers with those of students or with the observation data. Instead, the data discussed below contribute to our general understanding of classroom decision-making processes.

By level. As one can see from examining Table 3.39, all teachers reported a lot of control over decisions in several areas of their teaching and planning. Teachers at all levels perceived that they had "complete" control over selecting teaching techniques and selecting learning activities. Teachers at the middle school and high school level reported "complete" control over evaluating students while elementary teachers reported "a lot" of control. Teachers at all levels reported "a lot" of control over setting goals and objectives; use of classroom space; scheduling time use; scheduling instructional materials; selecting content, topics and skills to be taught and grouping students for instruction.

In summary, teachers generally feel quite in control of the curriculum areas related to their planning and teaching.

Table 3.39

Teacher Control of Their Planning and Teaching*

	Elementary					Junior High					Senior High				
	$\bar{X}$	SD	N	% Complete	% Little or None	$\bar{X}$	SD	N	% Complete	% Little or None	$\bar{X}$	SD	N	% Complete	% Little or None
Setting goals and objectives	4.21	.83	278	40.3	3.9	4.25	.77	393	41.5	2.3	4.32	.76	649	46.2	2.8
Use of classroom space	4.30	1.08	280	60.4	8.5	4.27	1.03	391	56.3	6.9	3.98	1.21	652	46.2	13.7
Scheduling time use	3.66	1.03	279	21.5	11.8	3.79	1.16	389	33.7	15.4	3.63	1.25	647	30.1	19.6
Scheduling instructional materials	3.89	.88	278	26.3	4.6	3.97	.92	391	32.2	6.7	3.86	1.05	648	32.9	12.5
Evaluating students	4.40	.74	279	52.3	1.8	4.48	.71	392	57.1	1.6	4.54	.70	650	63.2	2.1
Selecting content, topics and skills to be taught	4.12	.87	279	38.0	4.3	4.27	.83	392	46.2	3.6	4.29	.87	648	49.2	4.1
Grouping students for instruction	4.35	.92	278	58.6	4.6	3.78	1.26	389	38.3	17.5	3.61	1.33	646	34.8	22.8
Selecting teaching techniques	4.58	.66	279	66.7	0.8	4.53	.70	390	62.3	1.8	4.56	.71	652	65.3	1.7
Selecting learning activities	4.53	.65	279	61.6	7.9	4.48	.69	392	57.9	8.7	4.47	.77	648	59.6	2.6

*How much control do you feel you have over decisions about each of the following areas of your planning and teaching?

RESPONSE CODES: Complete = 5
A Lot = 4
Some = 3
Little = 2
None = 1

In addition to looking at teachers' responses for each element of their planning and teaching, we can also average each teacher's responses across all the elements to generate a teacher control scale. While the differences are very small, there is a trend for teacher control over teaching and learning to decrease as level of schooling increases (Table 3.40).

Table 3.40

Teacher Control over Teaching and Learning Scale Scores

	$\bar{X}$	SD	N
Elementary	4.23	0.56	279
Junior High	4.20	0.62	393
Senior High	4.14	0.65	652

By subject. Responses to this item were examined by subject area for secondary teachers. Looking first at distributions of teacher control scale scores rank ordered within level, we see that teachers' scores do differ by subject (Table 3.41). Analysis of variance tells us that these differences are statistically significant. The pattern of subject area data clustering into academic and non-academic groups is not pronounced here. Some consistencies across levels are that arts teachers reported the highest degree of control over curricular decisions, and responses of vocational education and English teachers are very similar. Differences exist for the degree of control indicated by math and physical education teachers from junior to senior high schools. I find this surprising, especially regarding responses of math teachers; I know of no other data which suggests that the junior high math curriculum provides teachers with more options and freedom than the senior high math curriculum.

Table 3.41

Rank Order of Teacher Control Scale Scores
By Subject Within Level*

Junior High**				Senior High***			
Subject	$\bar{X}$	SD	N	Subject	$\bar{X}$	SD	N
Arts	4.43	0.42	43	Arts	4.35	0.55	57
Math	4.27	0.56	65	Physical Ed.	4.31	0.59	52
Voc. Ed.	4.18	0.66	42	Foreign Lang.	4.21	0.58	30
Soc. St.	4.18	0.52	53	Voc. Ed.	4.20	0.65	133
English	4.16	0.66	81	English	4.16	0.52	121
Science	4.16	0.65	40	Soc. St.	4.11	0.67	86
Foreign Lang.	4.12	0.79	10	Science	3.97	0.71	77
Physical Ed.	3.88	0.71	37	Math	3.92	0.76	85

*Means are ordered from high to low control

**Anova yielded $F = 2.58$, $p < 0.013$

***Anova yielded $F = 3.85$, $p < 0.000$

Included in the rather long Table 3.42 are means of teachers' responses to the nine separate aspects of curricular decision making broken down by subject within level. While we already know that teachers in various subjects reported different overall amounts of control over their teaching and planning, this more detailed information reveals differences among responses regarding particular elements. Thus, we see that significant differences exist among either junior high or senior high teachers in the various subject areas for each element except time. For this element there is quite a lot of variance within each subject. This pattern is repeated for junior high school teachers regarding evaluation and grouping, and for senior high teachers regarding class space. Generally, though, it appears that teachers' perceptions of their control over curricular decisions vary by subject.

Table 3.42

Means of Teacher Control Scores for Each Element
By Subject Within Level

	All Secondary			Mids			Highs		
D49 Goals	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N
Eng.	4.26	0.81	201	4.10	0.91	80	4.36	0.72	121
Math	4.14	0.80	148	4.22	0.65	65	4.07	0.89	83
S. Studies	4.27	0.76	139	4.34	0.68	53	4.23	0.81	86
Science	4.17	0.78	118	4.22	0.72	41	4.14	0.81	77
Arts	4.61	0.53	99	4.53	0.55	43	4.66	0.51	56
F. Lang.	4.50	0.64	40	4.20	0.79	10	4.60	0.56	30
Voc. Ed.	4.32	0.75	175	4.26	0.77	42	4.34	0.75	133
P.E.	4.26	0.83	89	3.97	0.93	37	4.46	0.70	52
Anova	F = 4.310			F = 2.093			F = 2.619		
	p < 0.0001			p < 0.0436			p < 0.0000		
D50 Class Space									
Eng.	4.20	1.04	202	4.31	0.98	81	4.12	1.08	121
Math	4.03	1.25	149	4.41	0.99	64	3.74	1.35	85
S. Studies	4.15	1.09	139	4.36	0.81	53	4.02	1.22	86
Science	4.02	1.15	118	4.27	0.95	41	3.88	1.24	77
Arts	4.34	0.99	99	4.69	0.64	42	4.09	1.12	57
F. Lang.	3.95	1.52	40	3.70	1.42	10	4.03	1.56	30
Voc. Ed.	3.95	1.23	175	3.98	1.30	42	3.94	1.22	133
P.E.	3.86	1.20	88	3.61	1.25	36	4.04	1.14	52
Anova	F = 2.035			F = 4.419					
	p < 0.048			p < 0.0001					

Table 3.42 (Cont'd.)

	All Secondary			Mids			Highs		
D51 Time	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N
Eng.	3.76	1.12	201	3.82	1.17	81	3.72	1.09	120
Math	3.54	1.27	149	3.81	1.15	64	3.34	1.32	85
S. Studies	3.80	1.17	137	3.90	1.12	52	3.73	1.20	85
Science	3.56	1.38	116	3.82	1.36	40	3.42	1.39	76
Arts	3.68	1.18	99	3.77	1.02	43	3.61	1.29	56
F. Lang.	3.48	1.55	40	3.80	1.40	10	3.37	1.61	30
Voc. Ed.	3.70	1.25	172	3.68	1.29	40	3.71	1.24	132
P.E.	3.76	1.04	89	3.54	1.04	37	3.92	1.03	52
D52 Materials									
Eng.	3.80	1.01	201	3.90	0.99	80	3.73	1.02	121
Math	3.75	1.07	150	4.03	0.86	65	3.54	1.16	85
S. Studies	3.80	1.01	138	3.79	0.91	53	3.81	1.07	85
Science	3.78	1.03	117	3.92	0.83	40	3.70	1.11	77
Arts	4.32	0.82	98	4.38	0.76	42	4.27	0.86	56
F. Lang.	3.72	1.24	40	3.90	1.29	10	3.67	1.24	30
Voc. Ed.	4.07	0.92	174	4.10	0.79	42	4.06	0.96	132
P.E.	3.94	1.00	88	3.65	0.98	37	4.16	0.97	51
Anova	$F = 4.564$			$F = 2.457$			$F = 4.38$		
	$p < 0.0000$			$p < 0.0179$			$p < 0.0001$		

Table 3.42 (Cont'd.)

	All Secondary			Mids			Highs		
D53 Evaluation	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N
Eng.	4.40	0.84	202	4.35	0.84	81	4.44	0.84	121
Math	4.51	0.62	150	4.55	0.61	65	4.48	0.63	85
S. Studies	4.56	0.68	137	4.51	0.64	53	4.58	0.72	84
Science	4.52	0.62	117	4.48	0.64	40	4.54	0.62	77
Arts	4.71	0.54	99	4.76	0.53	42	4.67	0.54	57
F. Lang.	4.78	0.48	40	4.50	0.71	10	4.87	0.35	30
Voc. Ed.	4.47	0.72	175	4.43	0.77	42	4.48	0.70	133
P.E.	4.54	0.76	89	4.32	0.78	37	4.69	0.70	52
Anova	$F = 2.833$						$F = 2.249$		
	$p < 0.0063$						$p < 0.0289$		
D54 Content									
Eng.	4.11	0.89	202	4.05	0.93	81	4.15	0.85	121
Math	4.10	0.95	150	4.25	0.81	65	3.99	1.04	85
S. Studies	4.26	0.78	138	4.21	0.69	53	4.29	0.83	85
Science	4.15	0.97	116	4.15	0.95	40	4.14	0.99	76
Arts	4.66	0.61	100	4.72	0.55	43	4.61	0.65	57
F. Lang.	4.38	0.81	40	4.20	0.79	10	4.43	0.82	30
Voc. Ed.	4.45	0.79	174	4.45	0.83	42	4.45	0.78	132
P.E.	4.32	0.78	87	4.08	0.81	36	4.49	0.73	51
Anova	$F = 6.6$			$F = 2.291$			$F = 3.38$		
	$p < 0.0000$			$p < 0.0014$			$p < 0.0000$		

Table 3.42 (Cont'd.)

	All Secondary			Mids			Highs		
D55 Grouping	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N
Eng.	3.79	1.22	201	3.94	1.11	81	3.69	1.29	120
Math	3.68	1.19	150	3.91	1.14	65	3.51	1.20	85
S. Studies	3.39	1.35	137	3.62	1.29	53	3.24	1.38	84
Science	3.43	1.37	115	3.72	1.30	39	3.29	1.39	76
Arts	3.71	1.44	99	3.55	1.55	42	3.82	1.35	57
F.Lang.	3.60	1.46	40	4.00	1.05	10	3.47	1.57	30
Voc. Ed.	3.86	1.26	172	3.85	1.42	41	3.86	1.21	131
P.E.	3.52	1.35	88	3.33	1.22	36	3.65	1.43	52
Anova	F = 2.388						F = 2.68		
	p < 0.0200						p < 0.0097		
D56 Teaching Techniques									
Eng.	4.60	0.62	202	4.57	0.67	81	4.62	0.60	121
Math	4.51	0.72	148	4.68	0.53	63	4.38	0.82	85
S. Studies	4.52	0.65	139	4.40	0.63	53	4.60	0.66	86
Science	4.38	0.82	117	4.48	0.72	40	4.34	0.87	77
Arts	4.78	0.48	100	4.79	0.41	43	4.77	0.54	57
F. Lang.	4.68	0.69	40	4.40	0.84	10	4.77	0.63	30
Voc. Ed.	4.47	0.81	175	4.38	0.96	42	4.50	0.76	133
P.E.	4.54	0.71	88	4.25	0.87	36	4.75	0.48	52
Anova	F = 3.186			F = 2.827			F = 3.955		
	p < 0.0024			p < 0.0070			p < 0.0003		

Table 3.42 (Cont'd.)

D57 Activities	All Secondary $\bar{X}$	SD	N	Mids $\bar{X}$	SD	N	Highs $\bar{X}$	SD	N
Eng.	4.52	0.66	202	4.46	0.71	81	4.57	0.62	121
Math	4.42	0.80	149	4.59	0.58	64	4.28	0.91	85
S. Studies	4.48	0.66	139	4.47	0.58	53	4.48	0.72	86
Science	4.27	0.89	117	4.35	0.80	40	4.23	0.93	77
Arts	4.70	0.60	100	4.70	0.51	43	4.70	0.65	57
F. Lang.	4.62	0.78	39	4.40	0.70	10	4.69	0.81	29
Voc. Ed.	4.44	0.80	173	4.45	0.86	42	4.44	0.78	131
P.E.	4.42	0.72	88	4.19	0.78	37	4.59	0.64	51
Anova	$F = 3.146$ $p < 0.0027$			$F = 2.045$ $p < 0.0488$			$F = 3.391$ $p < 0.0015$		

By school. Differences among teachers at the elementary schools concerning their overall control over curricular decisions are not statistically significant. There is only a difference of 0.40 between the school with the highest mean scale score (Dennison) and the school with the lowest mean (Palisades). (See Table 3.43).

Table 3.43

Means for Teacher Control Scale Score
By Elementary School

School	$\bar{X}$	SD	N
Vista	4.25	.516	30
Crestview	4.22	.419	29
Fairfield	4.07	.666	34
Rosemont	4.28	.545	29
Newport	4.28	.526	25
Woodlake	4.05	.517	22
Atwater	4.27	.394	13
Palisades	4.20	.630	17
Laurel	4.26	.635	23
Manchester	4.25	.487	13
Bradford	4.30	.547	19
Euclid	4.36	.753	21
Dennison	4.45	.308	4

There are significant differences, though, among mean scale scores for junior high and senior high schools (Table 3.44). Considering what we already know about the Fairfield schools and their strong central administration, it is not surprising to see them at the bottom of the rank orders. The Manchester schools also have lower mean scale scores. At these schools, though, the teachers' unions are very strong so that one wonders if teachers' lower perceptions of their curricular control might be related to influence of the unions. A glance at Table 3.45 shows that teachers at the Manchester schools did, in fact, report more influence of unions on what they teach than did teachers in other schools. What I am suggesting, then, is that

Table 3.44

Rank Order of School Means for Teacher Control Scale Scores Within Secondary School Levels*

Junior High**

School	$\bar{X}$	SD	N
Atwater	4.45	0.46	23
Vista	4.31	0.58	48
Woodlake	4.31	0.46	27
Rosemont	4.30	0.48	42
Newport	4.26	0.63	57
Bradford	4.25	0.57	27
Euclid	4.22	0.66	10
Laurel	4.21	0.72	21
Palisades	4.19	0.61	40
Manchester	4.15	0.65	31
Fairfield	3.92	0.76	35
Crestview	3.87	0.61	32

Senior High***

School	$\bar{X}$	SD	N
Dennison	4.50	0.36	10
Woodlake	4.40	0.45	52
Atwater	4.35	0.51	24
Euclid	4.31	0.53	23
Palisades	4.27	0.67	59
Bradford	4.20	0.59	47
Rosemont	4.16	0.65	111
Vista	4.12	0.50	84
Crestview	4.11	0.52	44
Newport	4.10	0.77	76
Laurel	4.06	0.72	17
Fairfield	4.05	0.65	42
Manchester	3.72	0.79	63

*Means are ordered from highest to lowest control
**Avova yielded F = 2.34, p 0.009
***Anova yielded F = 4.03, p 0.000

Table 3.45

Teachers' Perceptions of Influence of Teachers Unions on What They Teach

"Little" Influence*

	Highs	Mids	Elems
English	-	Atwater Manchester	-
Math	Manchester	Rosemont	-
Soc. Studies	-	Newport	-
Science	-	-	-
Arts	Manchester	Manchester	-
For. Language	Euclid	-	-
Voc. Education	Manchester	Manchester	-
P.E.	Bradford	Bradford	Fairfield

* There were four response categories for this question: None, A Little, Some, A Lot. At all schools, for all subjects, with the exception of those listed in the table above, the response mode was "None".

there might be a relationship between teachers' perceptions of control over their teaching and planning and the existence of a strong administration, teachers' union, or other persons or groups.

Summary. Generally, teachers reported that they had a lot of control over decisions about their teaching and planning. Our data appear to support the image of the classroom teacher as being quite autonomous. The only curricular element for which more than 10 percent of all teachers reported a little or no control is scheduling time use. I think this is understandable because time schedules often affect whole school populations and, therefore, cannot be controlled by an individual teacher. The larger size and more complicated curricular structure of secondary schools would seem to increase the complexities of time schedules and decrease the control of individual teachers over related decisions. And, in fact, the percentage of teachers who reported little or no control over time schedules increased from 11.8 percent at the elementary level to 15.4 percent for junior high school teachers, to 19.6 percent for senior high school teachers.

The trend toward decreased teacher control over curricular decisions as level of schooling increases characterizes the overall control scale scores as well as responses about control of time schedules. Again, I propose that the larger size, more complicated curricular structure and resulting complexity of secondary schools might help explain this trend.

Looking at the schools within each level of schooling, we see no significant differences among elementary schools. Junior high schools and senior high schools do differ, though, in terms of overall teacher

control scale scores. Not surprisingly, Dennison has the highest mean control scale score, while Fairfield and Manchester have two of the lowest means for both secondary levels. I speculated that the strong control of the administration at Fairfield and the strong teachers' union at Manchester might help explain why teachers at these schools perceived less curricular control. But even at these schools, teachers on the average reported that they had a lot of control over their planning and teaching.

Subject area differences also emerge at the secondary level, despite the overall generally high scale scores. The academic versus non-academic split does not emerge at the junior high level, but is suggested at the senior high level. The pattern is similar to what we observed for responses of senior high school students regarding their own classroom decision making power: senior high teachers in the arts, physical education, vocational education, and foreign language classes reported the highest overall control scale scores. The parallel rank orderings of student and teacher decision making data by subject suggest a possible relationship between the two sets of variables which would need to be explored at the class level.

Overall Summary of Decision Making

My first impression of the data regarding classroom decision-making processes is that the teacher is firmly in control; he or she appears to make most of the decisions most of the time about curricular and instructional issues. Not only does teacher decision-making power exceed that of students, but teachers also reported little intrusion into the classroom domain from other adults. Other data to be discussed in Section 4 of this report should reveal whether or not students perceive their teachers as being too authoritarian, and perhaps possessing too much power, or as basically caring persons who are just and fair.

One could argue that teachers are educated, employed, and compensated to be classroom decision makers. They are--or should be--prepared to assume this role. Likewise, students should accept and comply with the decisions made by their elders. Or, so the argument goes. Yet, I have to question this line of reasoning. Shouldn't students be taught how to make decisions by being given an increasingly greater role in the instructional process as they move up through grades? Are schools preparing students to make the types of important decisions they will confront as adults?

These questions lead us to consider the more general and basic issue of what schools are for. I would think that a resolution of this concern would precede providing answers to more specific questions, like those mentioned above.

Despite this general trend of overall teacher control, differences do appear when the data are examined by level of schooling, by subject area, and by individual school. For both students and teachers,

control over classroom decisions generally decreases as level of schooling increases. The differences between levels are slight and for students somewhat mixed; deciding what to do in class and selection of materials decreases with level while deciding what to learn increases with level. From the observation data we also learn that senior high students make more classroom decisions than do junior high school students, but mostly just about their physical mobility. Teachers seem to be firmly in control of the important decisions concerning what, how, and when students are to learn at all levels of schooling. In addition, though, a greater percentage of elementary than secondary students expressed the desire for more classroom decision-making power. Does this mean that students become more accepting of classroom structures as they grow older? If the answer to this question is yes, should we be concerned about such a trend? Would acceptance of one type of structure, perhaps, carry over to acceptance of the status quo in other areas as well? And, again, what are our schools for, to teach students to accept the conditions they confront or to challenge the world which they face?

Discussion of differences in findings by subject area are possible only for the secondary level of schooling. Here we see a pattern which has emerged before, data generally vary according to an academic versus non-academic split between classes. Students in arts, vocational education, and physical educationl classes reported more decision making than did students in other classes. The observation data support this distinction. Furthermore, teachers in these classes--especially at the senior high level--also indicated that they had more control over their planning and teaching. Are these differences due to the seemingly

"openness" of the non-academic subjects in terms of prescribed content and methods? In other words, perhaps the nature of the non-academic subjects themselves, combined with the public's and the school's lesser concern with student learning in these areas, results in more freedom for teachers and students.

When classroom decision-making data are aggregated at the individual school level, some differences do emerge, but they don't appear to fall into one or two predominant patterns. Instead, we see that while junior high schools have similar scores regarding students' report of their decision-making power, elementary schools differ more. At this level, students at six of the seven predominately white schools reported less of a role in curricular decisions than did students in the racially mixed or minority schools. But when we look at the teacher data regarding their control over class curricular issues, there are few differences among elementary schools. Instead, there is more variation for junior and senior high schools. Two triples in particular--Manchester and Fairfield--stand out in my mind because their low ranking on teachers' report of curricular control fits with other data we have about the schools. Specifically, I think that the strong central administration at Fairfield and the strong teachers' union at Manchester may help to explain why teachers at these secondary schools reported less control over their planning and teaching than did teachers at other schools.

CONTROLS AND RESTRAINTS

The following discussion concerns the extent to which students encounter controls and restraints in classroom settings. Data from students, teachers, and observers have been included in order to describe the classroom environment in terms of its restraining effect on students. I think it is important to note that I do not intend to set up the teacher as the "bad guy" and portray the student as the "victim". The structure of the classroom and traditional grouping patterns undoubtedly place demands and restraints on teachers which cannot be ignored. It is important to explore the interaction of the forces working to mold teachers' behavior and teachers' attempts to control students' actions. But in order to appreciate such complex relationships, parts of the data must be digested by themselves before being included in more complex analyses. Therefore, the following material will be limited to data about the teacher's role as monitor of students' behavior regarding rules and regulations, student compliance, student freedom, disciplining of students, and other control mechanisms. Additionally, teachers' attitudes about control will be discussed.

Student Survey

Students at each level of schooling responded to questions designed to yield information about their perceptions of the restraining effect of classroom life. Because these questions varied across levels, it is difficult to make direct comparisons from level to level. Instead, I will only be able to make more general statements about changes in students' perceptions.

The overall high mean response of early elementary students--2.78*-- and the rather low variance suggests that most students perceive that they comply with teacher directions (Table 3.46). Or, at least, they won't admit to not doing so in writing. Considering that previously reported student, teacher, and observation data suggest that more time is devoted to disciplining students in the early grades, I would think that young students want to believe that they behave in ways that are condoned by adults. In other words, most students think that they should obey their teacher and want to believe that they do. Therefore, they are inclined to respond to our question in this way. But, they also know and report that getting students to behave takes a lot of class time. This discrepancy can further be explained by realizing that students had to indicate their own compliance with teacher directions, but were asked to report about time spent on getting students, in general, to behave. It is easier for anyone, regardless of age, to be more objective about the behavior of others than of oneself.

Responses to another similar item are in Table 3.47. The overall mean response is lower than for the previous item. These data are consistent, though, because one would expect students who reported that they always obey their teacher to indicate less agreement with the statement that they only sometimes do what their teachers tells them to do. There is in fact a negative, though very weak, relationship between the two variables. I think we can say, then, that early elementary students reported general compliance with teacher requests.

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* Responses were coded as follows: 1= No
2= Sometimes
3= Yes

Table 3.46

Early Elementary Students' Responses to Teacher Compliance Item

School	$\bar{X}$	sd	N
Euclid	2.84	.412	128
Laurel	2.82	.490	114
Atwater	2.80	.469	101
Bradford	2.79	.518	177
Woodlake	2.79	.436	172
Palisades	2.79	.444	149
Vista	2.78	.430	147
Crestview	2.77	.482	145
Manchester	2.77	.538	163
Fairfield	2.76	.517	172
Rosemont	2.75	.506	151
Newport	2.73	.568	147
Dennison	2.63	.711	24
Total	2.78	.490	1790

(A-20) I always do what my teacher tells me to do.

Table 3.47

Early Elementary Students' Responses to the Item:

"I only do some of the things that my teacher tells me to do".

SCHOOL	X	S.D.	N
Rosemont	2.31	0.80	151
Newport	2.14	0.82	147
Dennison	2.00	0.93	24
Crestview	1.97	0.88	145
Manchester	1.97	0.90	164
Palisades	1.91	0.94	148
Fairfield	1.90	0.90	167
Bradford	1.88	0.91	175
Laurel	1.80	0.88	113
Woodlake	1.79	0.86	168
Atwater	1.74	0.87	102
Vista	1.60	0.82	147
Euclid	1.52	0.79	128
Overall	1.89	0.89	1779

Upper elementary students responded to three items which relate to this section. They concern student compliance, student freedom, and class rules. Table 3.48 contains overall and school percentages for each item. Most students reported that they did all their assigned work. School percentages do vary, but over 70 percent of the students at each school agreed with this item. These responses continue the trend observed for the younger students of children reporting personal compliance with teacher directions. I think it is more difficult to interpret responses

to the other two items listed in Table 3.48 because they are negatively worded. Even eleven and twelve year-old students might have difficulty understanding what it means to respond negatively to a negatively-worded item. But, in terms of the data reported below, it appears that most students feel like they have freedom in their classrooms, while they are more divided about whether or not there are too many class rules.

At the secondary level students responded to several items, four of which clustered together to form one scale appropriate for this section--student compliance:

Student Compliance

53. I usually do my homework.
87. I usually do the work assigned in this class.
94. The students in this class usually do the work assigned.
104. I usually do everything my teacher tells me to do.

I find it interesting that the overall means for the student compliance scale are exactly the same for junior high and senior high school levels:

	$\bar{X}$*	SD	N
Junior High	3.24	0.28	367
Senior High	3.24	0.27	526

Secondary students are similar to elementary students in that they also reported compliance with teacher requests. The very small standard deviations suggest that most students, regardless of the particular class or school they were in, agreed with the items that comprised this scale.

*These are means of class means.

Table 3.48

Upper Elementary Students' Responses About Student Compliance, Student Freedom and Class Rules

B-35 I do all the work my teacher gives us			B-38 We don't feel like we have any freedom in this class		
School	% True	N	School	% True	N
Euclid	96.2	132	Manchester	42.7	117
Dennison	92.9	14	Bradford	42.2	166
Atwater	89.5	76	Laurel	40.3	149
Palisades	85.7	119	Palisades	37.2	121
Fairfield	84.6	169	Fairfield	35.9	167
Vista	84.6	162	Crestview	33.0	91
Woodlake	84.4	167	Newport	30.4	168
Laurel	80.4	148	Atwater	28.6	77
Rosemont	79.8	89	Vista	25.8	163
Manchester	76.9	117	Rosemont	25.6	90
Crestview	75.6	90	Euclid	24.2	132
Newport	74.6	169	Woodlake	18.6	167
Bradford	72.5	167	Dennison	7.1	14
Total	81.9	1619	Total	31.9	1622

B-16 We don't have too many rules in this class

School	% True	N
Dennison	93.0	14
Euclid	55.0	132
Laurel	55.0	145
Palisades	52.0	121
Woodlade	51.0	165
Fairfield	51.0	165
Rosemont	49.0	90
Manchester	47.0	116
Atwater	43.0	77
Newport	42.0	168
Vista	41.0	158
Crestview	39.9	90
Bradford	39.6	166
Total	47.5	1607

In addition to the student compliance scale, we can also examine secondary students' responses to three items concerning class rules. These data, as displayed in Table 3.49, show that on the average junior and senior high school students responded similarly. They mildly disagreed with the statement that there were strict sets of class rules, and mildly agreed that there weren't too many rules and that students had a clear sense of what they could do in class. The standard deviations for these three items are larger than for the student compliance scale scores discussed above. This is not surprising for I would expect that because the rule items concern characteristics specific to each classroom, they would tend to yield greater variances when aggregated by either school or level of schooling. In contrast, the student compliance scale concerns the behavior of each individual student and is less dependent upon classroom factors.

Table 3.49

Secondary Students' Responses to Items About Class Rules

	Senior High			Junior High		
	$\bar{X}$	SD	N	$\bar{X}$	SD	N
B25 In this class there is a strict set of rules for students to follow	2.24	.99	10874	2.51	1.06	8616
B46 Everyone in this class knows what we may or may not do	3.08	.88	10815	3.00	.95	8445
B102 We don't have too many rules in this class	2.72	.93	10550	2.62	1.00	7997

Observation

Student Access to Materials. The daily summary data includes a rating of the extent to which students were free to use class materials and equipment:

. Student use of materials and equipment
- ○ Unrestricted
- ○ Partially restricted
- ○ Restricted
- ○ No opportunity to observe

At present this information is available only for secondary schools, so the following discussion will be limited to the junior and senior levels of schooling.

We can see from Table 3.50 that, generally, observers were able to actually rate this variable for about only 50 percent of the periods observed. Given this constraint, it appears that the observed student access to materials was similar for both junior and senior high school levels; student use of materials and equipment was somewhat restricted. This does not really surprise me since I have not yet encountered much data which suggests that students have a lot of freedom or decision making power over classroom occurrences. There do seem to be substantial differences among schools, but not any particular triple pattern except for a couple of communities. Once again Manchester and Fairfield fall at the bottom of the distributions, and Palisades is at the top.

Table 3.50

Observed Secondary Students' Access to Materials: Rank Ordered By School Within Level*

Junior High			Senior High		
School	$\bar{X}$	$\bar{X}$ % Not Obs.	School	$\bar{X}$	$\bar{X}$ % Not Obs.
Euclid	2.52	61.4%	Palisades	2.77	81.4%
Palisades	2.18	38.8	Laurel	2.17	78.8
Newport	2.18	48.6	Vista	2.06	56.9
Laurel	2.10	57.2	Crestview	2.06	55.5
Atwater	1.91	56.7	Bradford	2.00	39.5
Woodlake	1.89	61.1	Dennison	1.87	52.6
Bradford	1.87	53.9	Woodlake	1.86	32.6
Rosemont	1.85	59.2	Euclid	1.76	68.3
Vista	1.81	25.9	Atwater	1.67	39.5
Manchester	1.80	71.6	Manchester	1.58	41.1
Fairfield	1.79	68.8	Rosemont	1.49	65.2
Crestview	1.40	22.2	Newport	1.48	57.0
			Fairfield	1.39	46.3
Overall	1.94	52.1	Overall	1.86	55.0

*Responses were coded as follows: 1= Restricted
2= Partially Restricted
3= Unrestricted

When these data are examined by subject area (Table 3.51) the academic versus non-academic split does not really appear. Generally, students were observed to have less restricted use of materials in vocational education classes and more restricted use in social studies classes. Few other patterns seem to emerge.

Table 3.51

Observed Secondary Students' Access to Materials: Rank Ordered By Subject Within Level

Junior High			Senior High		
Subject	$\bar{X}$	$\bar{X}$ % Not Obs.	Subject	$\bar{X}$	$\bar{X}$ % Not Obs.
English	2.24	59.2%	Vocational Ed.	2.18	36.7
Vocational Ed.	2.24	32.3	Math	2.14	69.0
Arts	2.16	37.4	Science	2.12	58.4
Math	2.14	67.9	Arts	2.05	37.3
Physical Ed.	2.13	22.4	Physical Ed.	2.05	32.0
Science	2.03	55.2	English	1.96	70.1
Social Studies	1.78	64.0	Foreign Lang.	1.85	77.8
			Social Studies	1.71	68.6

Disciplining Students. A very overt form of controlling students' classroom behavior involves, obviously, disciplining students. One of the activities on the snapshot section of the observation instrument concerned this type of activity. It was defined as a teacher or aide reprimanding students for their behavior. The format of the Snapshot Section, though, made it difficult for observers to actually record this activity. The snapshot was intended to record an instant of classroom life by placing everyone in one activity or another. As the observer glanced around the room, it was easier to code activities if they differed in terms of physical/behavioral characteristics. Activities that were verbal in nature, such as reprimanding students, were more difficult to distinguish. Because of this problem, as well as other factors mentioned previously, very few instances of this activity were recorded. In fact, for the junior and senior high levels of schooling, less than one percent of observed teacher activities involved disciplinging students.* More detailed information about the observed type and extent of teacher control of student behavior will be provided from the FMI data in the near future. As of yet, though, these data are not in a form which permits this type of analysis.

Teacher Attitudes About Control of Students

After examining some of our data which concern the extent to which students experienced controls and restraints in classroom settings, I thought it would be useful to investigate teachers' attitudes about the importance of teacher control. It appears that teachers at each of the three levels of schooling mildly agree with the statements that make up the Teacher Control Scale (Table 3.52). Or in other words, the teachers supported the need and desirability of teacher control of students and

*These data are not yet available for elementary schools.

Table 3.52

Teacher Educational Beliefs
Teacher Control Scale

Elementary				Junior High				Senior High			
School	$\bar{X}$	SD	N	School	$\bar{X}$	SD	N	School	$\bar{X}$	SD	N
Vista	4.36	0.73	30	Vista	4.52	0.63	48	Vista	4.29	0.70	84
Crestview	4.36	0.75	29	Crestview	4.70	0.74	32	Crestview	4.28	0.82	44
Fairfield	4.50	0.82	34	Fairfield	4.74	0.70	34	Fairfield	4.70	0.87	44
Rosemont	4.50	0.85	28	Rosemont	4.66	0.67	41	Rosemont	4.38	0.91	110
Newport	4.20	0.58	25	Newport	4.50	0.68	57	Newport	4.27	0.92	76
Woodlake	4.17	0.62	23	Woodlake	4.39	0.57	27	Woodlake	4.26	0.62	53
Atwater	4.72	0.87	12	Atwater	4.71	0.79	22	Atwater	4.01	0.90	24
Palisades	4.37	0.83	17	Palisades	4.43	0.78	40	Palisades	4.48	0.79	58
Laurel	4.55	0.99	23	Laurel	4.64	0.71	21	Laurel	4.90	0.56	17
Manchester	4.60	0.88	14	Manchester	4.82	0.70	32	Manchester	4.50	0.80	66
Bradford	4.19	1.00	20	Bradford	4.58	0.88	27	Bradford	4.38	0.76	47
Euclid	4.05	0.65	21	Euclid	4.49	0.72	11	Euclid	4.33	0.72	22
Dennison	4.18	1.02	4					Dennison	4.41	0.57	10
Overall	4.37	0.80	280	Overall	4.59	0.71	392	Overall	4.38	0.82	655

classroom activities. The mean scores are almost identical for elementary and senior high teachers, but the mean is a little higher for junior high teachers.

When secondary school mean scores are compared, Manchester, Laurel, and Fairfield appear near the top of rank ordered lists. The teachers at these schools apparently believe more strongly in the need for teacher control than do most teachers at the other schools. Beacuse these schools have clustered together on rank orders of other variables, such as time on behavior, I think it would be interesting to see if there is a relationship between teachers' attitudes toward control and their classroom behavior. Do teachers who firmly believe in the need for control also spend more time disciplining students, give students less of a decision making role, and have moreclass rules? Furthermore, what kinds of students and schools do these teachers encounter? Questions such as these should be explored in order to understand how teachers' belief are related to their teaching.

Overall Summary of Controls and Restraints

While teachers appear to support the need for the deirability of their own control of students and classroom events, they are not extreme in their support. Teacher control scale scores, averaged at the school level, varied between mild and moderate agreement. Not one school had a mean reflecting less than mild agreement or more than moderate agreement with the scale items. Perhaps, teachers by and large feel that teaching and learning are best carried out in an environment that is largely, though not necessarily completely, controlled and directed by themselves.

Data presented in this section suggest that classrooms are settings where most students perceive that they comply with teacher requests, students

have somewhat restricted use of materials and equipment, and are not overly disciplined. But, students seem more divided in their opinion about whether or not there are too many and too strict a set of class rules. Jarring differences in this image don't appear for each level of schooling. Instead, I am more impressed with the similarity of the data across levels.

SUMMARY OF CLASSROOM MANAGEMENT

The definition of classroom management offered by Duke in the preface to the 1979 NSSE Yearbook is broad enough to include a wide range of activities:

> Classroom management constitutes the provisions and procedures necessary to establish and maintain an environment in which instruction and learning can occur.

Similarly, the chapters in the Yearbook discuss several topics such as authority and power, classroom tasks, grouping, classroom climate, use of time, and environmental influences on classroom management. This treatment of classroom management is broader than that presented in this report, In fact, many of the topics discussed in the NSSE Yearbook overlap those included in other sections of this report and in our curriculum framework. As our conceptionalization of curriculum encompasses instruction, it may also include classroom management. In essence, it seems as if the elements which comprise our curriculum framework can be combined in several ways to allow for discussion of various topics, such as those presented in this report--instructional practices, classroom structures, classroom management, and classroom learning environment. Furthermore, the definition of each of these topics can be so narrow as to make each topic discrete, or so broad as to encompass all other related topics. Perhaps, what I am trying to say is that any discussion of classroom life can be structured to include few or many elements, and two different persons may select the same or different elements to include in a discussion of the same topic. I think that one contribution of A Study of Schooling is that we have data on nearly all of these elements, so that we have the luxury--and the difficulty--of being able to talk about classroom

events from a variety of perspectives.

Given the above, I will now try to discuss the data reported in this section on classroom management with the awareness that much of the information presented elsewhere in this report could easily be included in this discussion.

As classroom managers, it appears that teachers were the main decision makers. They made most of the important decisions about what, when, and how students were to learn. Younger students actually reported a somewhat larger role in making decisions concerning activities and materials, but less of a role regarding content than did secondary school students. And even though observation data indicate senior high students made more decisions about seating and use of space than did junior high students, it is difficult not to view teachers at all levels of schooling as being perceived, and perceiving themselves, as the persons in charge of classroom management.

Furthermore, students didn't appear to loudly object to this arrangement. Most students at each level of schooling reported personal compliance with teacher requests, and the percentage who reported a desire for more decision making power actually decreased as level of schooling increased (from 70 percent for elementary to 53 percent for senior high). But students were more mixed in their opinion about the number and strictness of class rules. So, perhaps while many students would like to have fewer rules to govern their classroom behavior and maybe even more of a role in making decisions, there were almost as many who accepted the current arrangement.

This current arrangement appears to have resulted in most of class time being spent on instructional activities. I do not mean to imply that another management or decision making arrangement would decrease or even increase the time devoted to instruction for I don't know what would happen.

But it seems as if instruction did comprise the main type of activity in the classes we sampled. When looking across the levels of schooling, we can also see that the proportion of time devoted to instruction is even greater for secondary than elementary school students. Conversely, time on student behavior decreased with level of schooling. Perhaps, then, many students become socialized into exhibiting the type of behavior teachers expect, or drop out of school if they don't accept the schools' structure.

While the data presented in other sections of this report will add to our knowledge of how classrooms operate, we can say that teachers seemed to be in control of their classrooms and did focus on instruction. I think that we must continually explore the implications of how life is conducted in classroom settings and ask ourselves if this is the what we think schools should be doing.

SECTION IV: CLASSROOM LEARNING ENVIRONMENT

In addition to the activities in which teachers and students participated and the structure and organization of classroom life, it is important to consider the psychological environment of the classroom. Admittedly, our attempts to describe this aspect of classroom life consist of students' responses to survey items and observers' judgments about the affective time of teacher-student interactions. These data did not result from prolonged and intensive probing of individuals' thoughts and attitudes. Nevertheless, our psychometric analysis of students' responses to several items about class climate support the grouping of many of the items into separate sub-scales of class climate (Sirotnik, 1979). These sub-scales concern student-teacher relationships and student-peer relationships.

Student-Teacher Relationships.

Students in grades one through twelve responded to survey items which clustered to form the following two scales: Teacher Concern, and Teacher Punitiveness. Additionally, secondary students responded to other items which were grouped to form Teacher Authoritarianism and Teacher Favoritism scales. While the number of items, the wording of individual items and the response modes differed from level to level, they are similar enough to permit some comparisons among levels. It should be noted, though, that the increased number of items in the scales for secondary students and older students' greater reading abilities probably make the senior high scale scores the most stable and valid.

Teacher Concern. The items and response modes for this scale are as follows: Early Elementary (1 = No, 2 = Sometimes, 3 = Yes)

Teacher Concern

21. My teacher is friendly.
26. I like my teacher.

Upper Elementary (1 = Usually False, 2 = Usually True)

Teacher Concern

1. My teacher listens to me.
5. My teacher makes the class fun for me.
9. My teacher is friendly.
12. I like the teacher in this class.
-14. I wish I had a different teacher for this class.

Secondary (1 = Strongly Disagree, 2 = Mildly Disagree,
3 = Mildly Agree, 4 = Strongly Agree)

Teacher Concern

1. The teacher makes this class enjoyable for me.
4. The teacher listens to me.
13. The teacher lets me express my feelings.
14. I like the teacher in this class.
-17. I wish I had a different teacher for this class.
21. I feel the teacher is honest with me.
22. This teacher is friendly.
24. The teacher is fair to me.

Teacher concern scale scores, averaged across classes for each level of schooling are displayed in Table 4.1. Keeping in mind the different response modes among the levels, it appears that, on the average, students at all levels of schooling perceived that their teachers showed concern for them as described in the items for this scale. While other data reported earlier suggest that teachers were most likely to respond to their students in a neutral rather than an overly positive or negative manner, students did not appear to interpret this neutral treatment as a lack of concern.

TABLE 4.1

Teacher Concern Scale Scores
Level Means Across Classes *

Level of Schooling	$\bar{X}$	SD	N
Early Elementary	2.69	0.19	72
Upper Elementary	1.79	0.15	62
Junior High	3.07	0.42	369
Senior High	3.22	0.39	526

* Refer to preceding text for response modes and codes.

Teacher Punitiveness. The items and response modes for this scale are as follows:

Early Elementary (1 = No, 2 = Sometimes, 3 = Yes)

Teacher Punitiveness

3. I'm afraid of my teacher.
12. My teacher gets mad when I ask questions.
15. My teacher is mean to me.

Upper Elementary (1 = Usually False, 2 = Usually True)

Teacher Punitiveness

3. My teacher hurts my feelings.
7. I'm afraid of my teacher.
11. My teacher gets mad when I ask a question.
13. My teacher makes fun of me.
15. My teacher punishes me unfairly.

Secondary (1 = Strongly Disagree, 2 = Mildly Disagree,
3 = Mildly Agree, 4 = Strongly Agree)

Teacher Punitiveness

2. The teacher makes fun of some students.
6. This teacher hurts my feelings.
7. I'm afraid of this teacher.
9. The teacher punishes me unfairly.
11. The teacher makes fun of me.
16. The teacher gets mad when I ask a question.

Comparison of the Teacher Punitiveness scale scores displayed in Table 4.2 with the Teacher Concern scores reported above, suggests that students generally perceived their teachers as being concerned about them, and not as punishing, fear provoking persons. The relatively small standard deviations also indicate that most class means differed little from these level means.

TABLE 4.2

Teacher Punitiveness Scale Scores
Level Means Across Classes*

Level of Schooling	$\bar{X}$	SD	N
Early Elementary	1.43	0.22	72
Upper Elementary	1.17	0.09	62
Junior High	1.66	0.29	369
Senior High	1.50	0.25	526

* Refer to preceding text for response modes and codes.

Teacher Authoritarianism. This set of items was asked only of secondary students.

Teacher Authoritarianism

19. This teacher is too strict.
45. This teacher treats us like children.
49. This teacher will never admit when he/she is wrong.
56. We don't feel like we have any freedom in this class.
64. This teacher acts like he/she is better than we are.
69. This teacher "talks down" to us.
75. This teacher never changes his/her mind about anything.
82. I don't feel like I have any freedom in this class.

If students did not, on the average, judge their teachers as being very punitive, secondary students were more apt to rate their teachers as being authoritarian (Table 4.3). This was more true of junior high than senior high students. It is not difficult to understand this difference considering that junior high students often think they deserve more freedom and

independence than the adults who are responsible for them are willing to give. Even though we can point to the slightly larger mean scores for the Teacher Authoritarianism scale than the Teacher Punitiveness scale, the former scores are still relatively low. Thus, in general, students disagreed with statements that portrayed their teachers as authoritarian.

TABLE 4.3

Teacher Authoritarianism Scale Scores
Level Means Across Classes

Level of Schooling	$\bar{X}$	SD	N
Junior High	2.13	0.36	368
Senior High	1.89	0.36	526

Teacher Favoritism. This set of items was also asked only of secondary students.

Teacher Favoritism

47. The teacher likes some students in this class better than others.
-50. The teacher has no favorites in this class.
77. The teacher treats smart students in this class better than others.

If secondary students did not view their teachers as very punitive or authoritarian, they also did not perceive them, to any great extent, as treating students unequally. But, we can also see that the mean scores for Teacher Favoritism are somewhat higher than were the means for the other two scales mentioned above. So, while students did, as a group, disagree with the Teacher Favoritism items, they did perceive teachers as exhibiting more favoritism than punitive or authoritarian behavior.

TABLE 4.4

Teacher Favoritism Scale Scores
Level Means Across Classes

Level of Schooling	$\bar{X}$	SD	N
Junior High	2.33	0.35	368
Senior High	2.23	0.39	526

Student-Peer Relationships

Peer Esteem Scales have been computed for each level of schooling, while Student Competitiveness, Classroom Dissonance and Student Cliqueness Scales, were formed for only secondary students. At the upper elementary level, though, students responded to three items which correspond to the latter three scales, respectively. What we have, then, is one positive measure--peer esteem-- and three negative measures of student-peer relationships. My dichotomization of the four measures obviously involves a personal judgment. It could be argued that competition among students is healthy and necessary as a motivating mechanism. I decided to group the Student Competitiveness Scale with the Dissonance and Cliqueness Scales because I think that competition has been overemphasized in our schools to the exclusion of student cooperative learning. As such, it now interferes with the learning process.

Peer Esteem. The items and response modes for this scale are as follows:

Early Elementary (1 = No, 2 = Sometimes, 3 = Yes)

Peer Esteem

2. The kids in this class are friendly to me.
9. I like the other kids in this class.
22. I have many friends in this class.

Upper Elementary (1 = Usually False, 2 = Usually True)

Peer Esteem

-2. Students in this class are unfriendly to me.
4. I like working with other students in this class.
6. I like my classmates.
8. In this class, people care about me.
10. My classmates like me.

Secondary (1 = Strongly Disagree, 2 = Mildly Disagree, 3 = Mildly Agree, 4 = Strongly Disagree)

Peer Esteem

3. I help my classmates with their work.
8. If I am absent, my classmates help me to catch up on what I missed.
10. I like my classmates.
12. I like working with other students in this class.
15. In this class, people care about me.
18. If I had trouble with my work, most of my classmates would help me.
20. My classmates like me.

Keeping in mind the different response modes, it appears that, in general, students had positive feelings about their classmates (Table 4.5). In other words, students at all levels felt, on the average, that their peers were likeable, cared for them and were helpful. The magnitude of the means for Peer Esteem are very similar to the means for Teacher Concern (See Table 4.1) as reported above. Thus, there seemed to be roughly the same degree feeling about the extent of concern teachers had for students as students had for each other.

TABLE 4.5

Peer Esteem Scale Scores *
Level Means Across Classes

Level of Schooling	$\bar{X}$	SD	N
Early Elementary	2.56	0.13	72
Upper Elementary	1.80	0.08	62
Junior High	2.96	0.21	369
Senior High	3.03	0.24	526

* Refer to preceding text for response modes and codes.

Computation of Pearson Correlation Coefficients between Teacher Concern and Peer Esteem Scores reveals that, in fact, for upper elementary and secondary school classrooms there is a moderately strong positive relationship between the two scores. Thus, in these classrooms it was quite likely that the more students perceived their teachers as concerned about them, the more they judged their peer relationships as being positive.

TABLE 4.6

Pearson Correlation Coefficients:
Teacher Concern and Peer Esteem

Level of Schooling	r	p	N (classes)
Early Elementary	0.07	0.54	72
Upper Elementary	0.50	0.00	62
Secondary	0.42	0.00	895

Student Competitiveness. Upper elementary students responded to one statement about student competitiveness:

> When I'm in this class, I feel I have to do better than other students.

Secondary students responded to four items which were clustered to form a scale of student competitiveness:

Student Competitiveness

48. There is a lot of competition in this class.
65. In this class, students compete with each other for good grades.
86. When I'm in this class, I feel I have to do better than other students.
90. Students in this class feel they have to do better than each other.

At the upper elementary level, about one-half (49.2%) of the students agreed with the statement that they felt a competitive spirit in their classes. When school scores are rank ordered (Table 4.7) the minority and mixed schools appear to have the highest percentage of students who responded affirmatively to this item. This seems to run counter to the common notion that competition is a prominent characteristic of mainstream American life and responsible for the accomplishments of the majority culture.

TABLE 4.7

Upper Elementary Students' Responses to Student Competitiveness Item

School	% True	N*
Rosemont	73.3	90
Newport	65.3	170
Manchester	64.7	116
Palisades	58.3	120
Bradford	54.8	168
Fairfield	49.1	169
Atwater	46.1	76
Laurel	45.6	149
Crestview	41.8	91
Woodlake	40.7	167
Vista	34.4	163
Euclid	26.7	131
Dennison	14.3	14
Overall	49.2	1624

Secondary classes, on the average, similarly had Student Competitiveness scores which fell at about the middle of the response range. The relatively low standard deviations suggest that individual class scores differed only slightly from the overall means.

TABLE 4.8

Student Competitiveness Scale Scores
Level Means Across Classes

Level of Schooling	$\bar{X}$	SD	N
Junior High	2.48	0.25	367
Senior High	2.33	0.32	526

Student Cliqueness. Again, upper elementary students responded to one item related to this construct, while secondary students responded to three which were clustered to form a scale score.

Upper Elementary:

> When we work in small groups, many students work only with their close friends.

Secondary:

Student Cliqueness

36. Some groups of students refuse to mix with the rest of the class.
68. Certain students stick together in small groups.
105. When we work in small groups, many students work only with their close friends.

While barely 50 percent of upper elementary students responded affirmatively to the Student Competitiveness item, almost three-fourths (72 percent) reported the Student Cliqueness item to be true. No pattern of school scores similar to that for Student Competitiveness was found here.

TABLE 4.9

Upper Elementary Students' Responses to
Student Cliqueness Item

School	% True	N
Vista	82.2	163
Atwater	75.3	77
Manchester	75.2	117
Fairfield	74.6	169
Palisades	73.6	121
Laurel	73.6	148
Woodlake	73.1	167
Euclid	71.5	130
Newport	68.8	170
Rosemont	67.8	90
Bradford	65.1	169
Crestview	63.7	91
Dennison	50.0	14
Overall	72.1	1626

Secondary students also perceived somewhat more cliqueness than competitiveness in their classrooms. But, even the Student Cliqueness Scale scores are not very high, so that students in these classes did not seem to perceive a great amount of cliqueness or favoritism among their peers. Perhaps, the relatively structured classroom environments where the teachers had a good amount of control allowed for infrequent formation of students according to social status. I would guess that most of students' socializing occurred outside of classrooms.

TABLE 4.10

Student Cliqueness Scale Scores
Level Means Across Classes

Level of Schooling	$\bar{X}$	SD	N
Junior High	2.79	0.27	368
Senior High	2.63	0.35	526

Student Dissonance. The items related to this construct are as follows:

Upper Elementary

Students in this class yell at each other.

Secondary

Classroom Dissonance

41. The students in this class fight with each other.
54. The students in this class argue with each other.
107. Students in this class yell at each other.

As with the Student Competitiveness item, about 50 percent of the upper elementary students responded that this item was true of their classes. There is also a fairly wide range among school scores, but no clear pattern seems to emerge.

TABLE 4.11

Upper Elementary Students' Responses to Classroom Dissonance Item

School	% True	N
Crestview	72.5	91
Bradford	68.7	166
Laurel	62.2	148
Manchester	59.5	116
Rosemont	54.4	90
Newport	53.8	169
Fairfield	53.3	167
Atwater	48.0	75
Vista	47.2	163
Palisades	37.2	121
Woodlake	36.5	167
Euclid	22.7	132
Dennison	14.3	14
Overall	50.7	1619

Secondary students, senior high more than junior high, generally disagreed with the classroom dissonance items. It is not surprising that junior

high students perceived more dissonance than did the older students. During the early adolescent years, youngsters are more apt to express their disagreements fairly openly. Still, though, these scale scores suggest a relatively low level of open student conflict.

TABLE 4.12

Classroom Dissonance Scale Scores
Level Means Across Classes

Level of Schooling	$\bar{X}$	SD	N
Junior High	2.30	0.44	368
Senior High	1.89	0.44	526

Summary of Student-Teacher and Student-Peer Relationships

In general, students appeared to feel that their teachers were concerned about them and not overly punitive. Additionally, secondary students did not judge their teachers as being very authoritarian or as showing much favoritism toward different groups of students. Students, on the average, at all levels rated Peer Esteem as being generally positive, while Student Competitiveness, and Cliqueness as well as Classroom Dissonance were not perceived as being very pronounced. Furthermore, at the upper elementary and secondary levels of schooling, Teacher Concern and Peer Esteem scores were positively related. Thus, following the positive/negative division of the four student-peer scores discussed so far, it appears that students rated their peer relationships as more positive than negative. Also, we see that regarding at least two of these class climate measures--Teacher Concern and Peer Esteem--there seems to be a relationship between how students perceive their teachers and their peers.

What about student satisfaction, in general, and its relationship to the

various student-teacher and student-peer measures discussed thus far. Were students satisfied with their classroom experiences? Were measures of student satisfaction more highly related to characteristics of student-teacher or student-peer relationships? Because Student Satisfaction was measured by a four-item scale at the secondary level compared to one item for upper elementary students, these questions will be explored using only responses of secondary students.

Both junior high and senior high school students mildly agreed with the Student Satisfaction items as listed below.

Student Satisfaction

96. Students feel good about what happens in class.
-101. I don't like coming to this class.
108. After class, I usually have a sense of satisfaction.
112. I feel good about what happens in this class.

When Student Satisfaction Scale Scores are further examined by subject area, the frequently appearing academic versus non-academic split emerges again (Table 4.13). Students rated their satisfaction as being somewhat higher in arts, vocational education, and physical education classes than in other subject area classes. It is difficult not to continue thinking that the content and process of classes in these three subject areas were different from what occurred in other classes and also more directly related to students' needs and interests.

TABLE 4.13

Secondary Student Satisfaction Scores
Subject Area Means By Level
of Schooling

Junior High				Senior High			
Subject	$\bar{X}$	SD	N (classes)	Subject	$\bar{X}$	SD	N (classes)
Voc. Ed.	2.93	0.34	49	Arts	3.08	0.36	65
Physical Ed.	2.93	0.21	25	Physical Ed.	3.01	0.40	33
Arts	2.87	0.36	45	Voc. Ed.	2.98	0.38	105
Math	2.79	0.29	70	Foreign Lang.	2.89	0.41	27
English	2.76	0.39	72	English	2.73	0.42	83
Foreign Lang.	2.74	0.29	11	Math	2.72	0.37	72
Social Studies	2.72	0.35	53	Social Studies	2.67	0.39	76
Science	2.72	0.34	42	Science	2.64	0.43	65
Overall	2.80	0.34	367	Overall	2.83	0.42	526

When we examine correlations between Student Satisfaction and measures of student-teacher and student-peer relationships, it is apparent that the former category of relationships produced the strongest correlations (Table 4.14). Regarding human interactions, it would seem that the way students perceived their teachers was more important in terms of overall student feelings of satisfaction than how students perceived their classmates. More specifically, students in classes where teachers were rated as showing concern for them, were quite likely to feel more satisfied about their class experiences. Conversely, students in classes where teachers were judged to be authoritarian were likely to feel less satisfied. No measures of student-peer relationship were as highly related to Student Satisfaction as were these student-teacher scales.

TABLE 4.14

Pearson Correlation Coefficients Between Secondary Student Satisfaction and Measures of Student-Teacher and Student-Peer Relationships

Scale	r	p	N (classes)
Student-Teacher			
Teacher Concern	0.79	0.000	893
Teacher Punitiveness	-0.39	0.000	893
Teacher Authoritarianism	-0.65	0.000	893
Teacher Favoritism	-0.51	0.000	893
Student-Peer			
Peer Esteem	0.39	0.000	893
Student Competitiveness	0.09	0.005	893
Student Cliqueness	-0.02	0.000	893
Classroom Dissonance	-0.26	0.000	893

Correlations between Student Apathy Scores and the same student-teacher and student-peer measures are somewhat different from the above.* Here we find that some student-peer relationship scores, as well as student-teacher relationship scores, are highly related to the Student Apathy measure. Thus, a lack of caring about what goes on in the classroom was related to more Student Dissension, Teacher Authoritarianism, and Teacher Punitiveness, and less Teacher Concern and Peer Esteem. It would seem that students' apathetic attitudes toward their classroom experiences warrant serious consideration by educators; student apathy may be wrapped up with a host of other classroom characteristics.

* Student Apathy Scale Items are:

Student Apathy

29. Failing in this class would not bother most of the students.
-33. Most of the students pay attention to the teacher.
34. Students don't care about what goes on in this class.
67. I don't care about what goes on in this class.

TABLE 4.15

Pearson Correlation Coefficients Between
Secondary Student Apathy and Measures of
Student-Teacher and Student-Peer Relationships

Scale	r	p	N (classes)
Student-Teacher			
Teacher Concern	-0.69	0.000	895
Teacher Punitiveness	0.52	0.000	895
Teacher Authoritarianism	0.67	0.000	894
Teacher Favoritism	0.46	0.000	894
Student-Peer			
Peer Esteem	-0.50	0.000	895
Student Competitiveness	-0.01	0.829	893
Student Cliqueness	0.37	0.000	894
Classroom Dissonance	0.65	0.000	895

Fortunately, Student Apathy Scores were generally lower than were Student Satisfaction Scores at both the junior high and senior high school levels. On the average, students mildly disagreed with the Student Apathy items.

Student Apathy Scale Scores
Level Means Across Classes

Level of Schooling	$\bar{X}$	SD	N
Junior High	2.09	0.33	369
Senior High	1.93	0.36	526

It is also possible, by the use of discriminant analysis, to examine how scores on all of these, plus additional class climate scales distinguish classes by subject area. As noted above, and elsewhere, the non-academic classes differed from the academic classes on a number of separate variables. What

happens when we attempt to look at many class climate variables by subject area?

When junior and senior high school classes are examined together for five subjects--English, math, social studies, science, and the arts--classes in the latter subject stand apart from the rest. Arts classes were distinct in that they had high scores for Student Satisfaction, Student Decision-Making and and Classroom Physical Appearance. Conversely, arts classes had relatively low Task Difficulty scores. I find this latter trend as less than encouraging. While it is good to know that students were generally satisfied with their experiences in arts classes, it is disturbing that they perceived their class work to be relatively easy. This is disturbing because such experiences could likely lead to a generalized attitude that the arts are meant to be easy and not amenable to helping students explore difficult and challenging ideas or problems. Furthermore, if the arts are viewed as being easy, will not they also be judged as being unimportant?

Classroom Affective Tone

In addition to students' perceptions of the classroom environment, we can also look to observers' ratings of the classroom affective tone. A feature of the FMI section of the observation instrument allows for the description of teacher-student interactions according to whether or not they were positive, negative, or neutral in tone.

Examination of Tables 4.16 and 4.17 suggest that, once again, the generally neutral atmosphere of classroom life, which has been referred to in other parts of this report, is evident. Whether we look at the nature of how teachers related to students (Table 4.16) or how students related to teachers (Table 4.17)

the overwhelming impression is that the tone of these interactions was flat. Very small amounts of either overtly positive or negative feelings were recorded by the observers.

TABLE 4.16

Average Percentage of FMI Frames Coded for Teacher to Student General Affect

Level of Schooling	% General Positive Affect	% General Negative Affect	% General Neutral Affect
Early Elementary	1.46	.80	59.25
Upper Elementary	.82	.76	59.72
Junior High	1.14	.68	62.65
Senior High	.88	.52	62.90

TABLE 4.17

Average Percentage of FMI Frames Coded for Student to Teacher General Affect

Level of Schooling	% General Positive Affect	% General Negative Affect	% General Neutral Affect
Early Elementary	0.20	0.04	23.71
Upper Elementary	0.14	0.04	22.00
Junior High	0.26	0.08	17.06
Senior High	0.29	0.05	17.47

CONCLUSION: EMERGING THEMES

The data reported and discussed in the foregoing pages suggest at least five themes about the nature of teaching and learning in the several hundred classes sampled for this study. The themes are not exceptionally novel, but do suggest that our 38 schools were, perhaps, more traditional, less chaotic, and more controlled than one might expect based upon comments of many school critics. Yet, these very characteristics present a somewhat discouraging picture to those reformers who have worked to change many of the traditional features of American schools. I might suggest that our sample of schools presented neither an extremely depressing nor very encouraging image of public schooling. Things were not as bad as some persons insist they are nor as good as other persons would like them to be. Instead, teachers and students seemed to coexist and fulfill their respective roles in at least a minimally functioning environment.

The Classroom is Traditional

The first theme implies that the basic processes and structures reported and observed to have occurred in our sample of classrooms were more similar than different from what has been occurring year after year in many classrooms in many schools. I found few surprises hidden in the findings I examined. Instead, it seems as if teachers were most often engaged in lecturing/explaining/instructing activities directed at the total class. Students were mainly busy listening to their teachers, doing written work, preparing to do their assignments or involved in other more active, but traditional activities. Elementary classrooms had the greatest variety of activities and grouping patterns. Teachers in secondary classrooms were more likely than elementary teachers to lecture or explain material to their students and less likely to

ask them questions or give them feedback about their work. But, at each level, instruction was perceived as taking proportionately more time than disciplining students or attending to routines. Not surprisingly, though, instruction increased, and correcting students' behavior decreased from elementary to secondary classrooms. In general, though, students were more likely involved in on-task rather than non-task activities. And instructional activities were clearly the main part of classroom life.

The single classroom with between 25 to 30 students and one teacher was still the most common arrangement. And desks or tables were more often placed in rows than in any other configuration. Few learning centers, carpets, rugs, or stuffed furniture were seen. Radical, innovative environments were not widespread. Instead, the appearance of classrooms, on the average, seemed to vary little from what one would expect, given the nature of classrooms in past years.

The Classroom Is Neutral

Several different types of data contribute to the impression that the prevailing classroom atmosphere was one of neutrality. Teachers were observed praising or reprimanding students infrequently. The nature of teacher-student interactions were basically neutral in tone when teachers were talking to students or when students were talking to teachers. Yet, despite the lack of much teacher behavior which could be characterized as overtly positive, students perceived their teachers as being concerned about them, and not overly punitive. While the nature of the teaching-learning process seemed to be basically neutral in tone, what little emotion that was shown was more positive than negative. So, if students were not smothered in affection, neither were they being brutalized.

One naturally wonders about the reasons why classroom life was so neutral.

I hypothesize that teachers did not display much emotion because the job of instructing and managing a large group or groups of students for about five hours a day five days a week is a very demanding task. In order to carry out this role, teachers have to conserve as much of their emotional strength as possible. Psychologically, then, a relatively neutral demeanor is necessary in order to allow teachers to keep functioning, be it at even a minimal level. As noted in Section I of this report (page 1-18) it is interesting that secondary school teachers in Japan teach only three hours a day. They spend the rest of their working hours attending to needs of individual students and planning activities. Perhaps, we should consider changing our tradition of teachers instructing large groups of students during all, or almost all, of their working hours. A more varied schedule might result in the improved quality of teaching, in general.

Teachers Are In Control

If teachers were basically neutral in manner, they were also in control of their classrooms. Most students reported no role in making decisions about what they did or learned in their classes. Only about 50 percent of the students said that they ever selected their own books and materials. And, observers noted that teachers made most of the decisions about classroom-life, most of the time.

Teachers also reported that they, indeed, had a lot of control over their teaching and planning. They received little input from students or little intrusion from other adults regarding their curricular or instructional activities. Interestingly, though, teacher control appeared to decrease as level of schooling increased. Perhaps, the greater size and complex organizational structure of secondary schools afforded teachers less independence than was possible in the

elementary schools. The self-contained elementary school classroom is an accurate term, maybe more accurate than we realized.

Students Accepted Classroom Conditions

While students acknowledged their limited role in making classroom decisions, they did not seem to cry out for change. In fact, the desire for more decision-making power actually decreased with level of schooling. Those students who stay in the school system may become resigned to the traditional distribution of authority and conclude that they shouldn't have and don't want any more power than they have.

Students also reported overall compliance with their teachers' requests and demands and did not feel as if their teachers were too authoritarian. And, student satisfaction was very strongly related to student judgments of teacher concern. Thus, if students felt that their teachers cared about them, they were more likely to feel satisfied with their classroom experiences. As noted above, students were also observed involved in on-task activities more than in non-task activities. In general, then, students appeared to accept classroom life as they knew it, and if the person in control—their teacher—was concerned about them as students, they were likely to feel satisfied.

Classrooms Don't Encourage Growth of the Individual Student or Development of Group, Social Values

Neither the humanistic, nor the socially conscious educator would likely be satisfied with the nature of teaching and learning emerging from our data. Teachers, and the organization of classrooms seemed to encourage isolated independent learning. If students weren't listening to the teacher as a member of the total class, they were likely doing written work at their own desk or table while their classmates were often doing the same. Teachers reported little individualization of instruction and provided for little cooperative student learning. We saw few classrooms with learning centers, but many classrooms

with students sitting in rows facing the front of the class.

So, while students seemed to be occupied with the same work that their peers were doing, they did not appear to have much opportunity to work together on their common tasks. Students functioned more as independent learners who were dependent on their teachers for most of the necessities of classroom life.

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